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Research on the Intellectual Property Dispute Resolution Mechanism in AI Commercial Applications under the TRIPS Agreement Framework

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Abstract. As artificial intelligence (AI) grows more sophisticated in the modern era, transnational commercial trade involving AI-generated content has become increasingly frequent, giving rise to complex intellectual property frictions among multinational enterprises. This essay focuses on the intellectual property dispute resolution mechanism under the framework of the "Agreement on Trade-Related Aspects of Intellectual Property Rights" (TRIPS), and its applicability in the commercial application of AI. An extraterritorial study is conducted by taking the United States and the European Union as examples. Through case analysis, comparative research, and literature analysis, this study explores the current status and limitations of the dispute resolution mechanism among countries under the TRIPS framework, as well as the practical situation of international commercial arbitration in transnational technical disputes. The research finds that although the TRIPS agreement provides a fundamental multilateral legal framework, in resolving issues which are connected with works generated by artificial intelligence, the existing mechanism faces many challenges, including procedural lag, lack of relief measures at the enterprise level, and substantive uncertainty regarding the copyrightability of the output of artificial intelligence. It is necessary to enhance the flexibility of international commercial arbitration at the enterprise level and promote the modernization of TRIPS provisions to adapt to the technological reality of artificial intelligence.

Keywords: TRIPS Agreement, AI-generated content, intellectual property disputes, commercial arbitration, transnational trade

1. Introduction

In recent years, the commercialization of AI technology has triggered unprecedented intellectual property legal challenges worldwide. In January 2023, Getty Images filed copyright infringement lawsuits against Stability AI in both the United States (Hereinafter referred to as "U.S.") and the United Kingdom (Hereinafter referred to as "U.K."), alleging that Stability AI copied millions of copyrighted images to train its Stable Diffusion generative AI model and commercially distributed AI-generated content across borders [1]. If courts rule in favor of plaintiffs in such cases, it may trigger "innovation arbitrage," (means AI developers will seek the most favorable regulatory

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environment for their innovative activities in the face of legal differences between countries) leading the developers of generative artificial intelligence systems to shift their business to countries where the use of copyrighted works as training data is regarded as a legitimate practice. This case reveals the dual complexity of intellectual property disputes in the commercial application of AI: at the micro level, multinational enterprises encounter direct copyright infringement disputes arising from the acquisition and use of AI training data; on the macro level, different interpretations of the core concept such as "fair use" across different jurisdictions may lead to frictions between states regarding intellectual property enforcement obligations within the WTO framework [2]. Furthermore, trading artificial intelligence involves complex economic benefits and social choices that challenge existing multilateral rules, as trade policy makers have thus far focused on promoting AI innovation while leaving cross-border commercial risks--such as competition policy, ethical use, and personal data protection--insufficiently addressed [3].

In the face of these challenges, the traditional intellectual property dispute resolution mechanisms have been proven insufficient to deal with artificial intelligence technology. This article takes the TRIPS as the analytical framework, and explores the current situation, difficulties, and improvement paths of the intellectual property dispute resolution mechanism in the context of artificial intelligence commercial applications. By analyzing the procedural delays and insufficient remedies in the current multilateral trading system, and combining with the judicial and legislative practices of typical extraterritorial jurisdictions, this article proposes an alternative solution.

2. Problem statement: challenges posed by AI commercial applications to the current TRIPS dispute settlement mechanism

This section explores the challenges posed by the commercial application of AI to the current dispute resolution mechanism of the TRIPS agreement from three interrelated dimensions. Firstly, the essay analyzes the framework of intellectual property protection (IPR) and dispute resolution established by the TRIPS agreement, identifies the structural principles and procedural paths for regulating multilateral enforcement, and reveals the tension between its country-centered design and the reality of enterprise dominance in artificial intelligence commercial activities. Secondly, it analyzes the specific infringement scenarios that may arise during the training and content generation stages of artificial intelligence in cross-border trade, and explains how these scenarios put the existing copyright system--especially the fair use exception and the reproduction right--under pressures that were not anticipated by the drafters. Finally, it assesses the systematic lag and substantive limitations of the current mechanism, argues why the TRIPS mechanism is unable to effectively resolve intellectual property disputes caused by artificial intelligence technology within the existing framework, and lays the analytical foundation for the proposed improvement paths in the next section.

2.1. Interpretation of the IPR and dispute settlement framework under the Agreement

The TRIPS Agreement underpins the legal architecture of the WTO trading system, establishing international minimum standards for IPR. TRIPS does not set up a unified intellectual property law; instead, it stipulates a set of minimum standards that member countries can implement in various ways, leaving many aspects to be determined by domestic laws [2]. A balanced construction of TRIPS rules is pivotal to reconciling public welfare with rights-holders' legitimate expectations. This agreement establishes fundamental principles such as national treatment, most-favored-nation

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treatment, and international exhaustion, and requires members to fulfill substantive protection obligations in the fields of copyright, trademarks and patents [3].

At the dispute settlement level, TRIPS Article 64 incorporates the provisions of GATT 1994 Articles XXII and XXIII, as elaborated by the Dispute Settlement Understanding (DSU), meaning that TRIPS does not establish an independent dispute settlement mechanism but instead relies on the WTO framework. Although this design ensures to some extent that the program can be executed, it also makes the program less flexible and prone to freezing. Notably, only WTO members have direct access to this system; non-governmental organizations, industry associations, companies, and individuals lack direct standing and can only influence proceedings indirectly through lobbying governments. The Appellate Body has been inoperable since December 2019 as a result of the U.S. blockade on judicial appointments, effectively disabling the two-tier review mechanism [4].

One particularly tricky point is that the copyright status of AI-generated content is indeterminate, as the TRIPS offers no guidance on non-human authorship. The determination of originality in AI-generated works poses significant theoretical difficulties. Some scholars propose a model of authorship based on two elements--"conception" and "execution"--arguing that even the most advanced machines are "faithful agents" of the humans who design or use them, and that the proper question is not whether a computer can be an author, but how to assess the authorship of the relevant humans [5].

Under this framework, when human participation is sufficiently deep, authorship may be recognized; when human contributions are too remote, the output may fall into an "authorless" state [5]. Other scholars advance the "human-in-the-loop" theory. This theory describes the process in the stage of artificial intelligence's machine learning where human trainers convey the values and evaluation criteria of the data to the machine. From the perspective of creative behavior, although human involvement does not occur directly during the machine learning stage, the data screening process itself requires certain value judgment criteria to ensure that the subsequent content generation can demonstrate a minimum level of creativity. These screening criteria are not something that machines can automatically master; instead, they must be provided by humans during the initial learning process of the machine. Therefore, the creativity of artificial intelligence essentially stems from the human value judgments conveyed during the data modeling and training process, and the criteria for data selection cannot be automatically obtained by machines; they must be actively set and provided by humans. On this basis, it is argued that AI-produced outputs can meet the necessary condition of originality and that copyright should be attributed to the AI owner by analogy with the legal entity work system [6]. In sharp contrast, opposing scholars argue that the content created by AI is essentially "calculation rather than creation"--the result of applying algorithms, rules, and templates--and that because identical inputs inevitably produce identical or limited outputs, the process precludes personalized features and cannot possess the originality of the work [7]. These diametrically opposed scholarly positions illustrate the fundamental uncertainty that the TRIPS framework confronts when attempting to determine the copyright of the content produced by artificial intelligence.

2.2. Commercial application scenarios and infringement characteristics of AI-generated content in transnational trade

The commercial application of AI-generated content primarily involves two key stages: the training stage, in which AI developers scrape large quantities of copyrighted works as training data; and the generation stage, in which AI models synthesize outputs in response to user prompts [1]. During the training phase, the main infringement risks are concentrated on the exercise of the right of

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reproduction. Machine learning systems require massive datasets for training. Building a training dataset almost inevitably involves replicating millions of copyrighted images, texts, or audiovisual works [8]. Thanks to the fair use doctrine, machines have traditionally been granted broad latitude to "read" copyrighted works, but whether this tolerance can extend to machine learning systems that not only read but also actively learn from copyrighted data remains uncertain. Once the reading and learning stages of the machine are not properly utilized, AI training will basically fail. After all, collecting and replicating training data is a precondition for the operation of machine learning [8]. Some Chinese scholars have similarly argued that data input through "machine reading" constitutes fair use in copyright law, while emphasizing the need for a more open and flexible legislative approach--such as adding "text and data mining" as a new fair use exception--to address the utilization of works by AI [9]. Furthermore, a distinction must be drawn between "programmed content generation," where outputs are predetermined by internal algorithms, and "autonomous content generation," where AI based on deep learning can independently generate new content beyond preset algorithmic assumptions--a distinction that carries significant implications for copyright attribution [6].

In the generation stage, the focus of dispute shifts to the copyright ownership of AI-generated content and whether AI output constitutes "substantial similarity" with original works in the training data. A practical concern arises from the operation of signature presumption rules: if the operators of artificial intelligence do not disclose the actual generation process but claim that the output is their own creation, then in fact, due to the legal presumption of authorship attached to the signature, this content may be regarded as a copyrighted work - this information asymmetry leads to a gap between the legal status and the factual status of artificial intelligence content [7]. In the context of transnational trade, this issue becomes even more prominent-different countries have varying degrees of strictness in their requirements for attribution and disclosure, and thus the amount of protection that AI-generated content can receive also varies. Moreover, if AI-generated content imitates protected works in style, it may take away the jobs of human creators in the market, disrupt the original licensing model, and make it increasingly difficult for professional creators to make money [10]. This kind of infringement feature is particularly prominent in international commercial trade. The copyright protection standards and exception rules of various countries vary greatly, and multinational enterprises simply have no idea how to comply [3].

2.3. The lag and limitations of the current TRIPS mechanism in addressing AI intellectual property frictions

The current TRIPS dispute resolution mechanism is clearly lagging behind and has a host of limitations. First, in terms of procedural efficiency, WTO dispute settlement proceedings typically span several years, while the iteration cycle of AI technology is merely months. By the time inter-state dispute settlement outcomes are rendered, the relevant technology may already be obsolete. Second, in terms of remedies, the DSU only provides state-to-state dispute settlement, and aggrieved copyright holders cannot obtain direct compensation through the WTO mechanism [4]. Third, in terms of substantive rules, significant divergences exist among member states regarding how the "three-step test" under Article 13 of TRIPS applies to the use of AI training data [2]. Although TRIPS sets baseline standards for copyright protection, it provides no clear guidance on whether AI-generated content constitutes a "work" or qualifies for copyright protection. The broad proliferation of AI raises specific challenges to existing intellectual property rules, which are human-centric in orientation and may not function effectively when applied to AI-generated outputs [11]. The substantive rules are hard to explain clearly, and the program is a bit slow. When the two are

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combined, the existing framework is simply unable to effectively handle the frictions of cross-border intellectual property rights in the commercial application of AI.

3. Examination of extraterritorial national systems and practical dilemmas under the TRIPS framework

To put the theory into practice, this section looks at how major jurisdictions outside the discussion are handling AI intellectual property challenges under the TRIPS framework. The focus is on the U.S. and the European Union, since they represent two very different--and very influential--approaches: the U.S. leans on flexible judicial interpretation of fair use doctrine, while the EU builds on layered statutory exceptions and transparency mandates. Japan, Australia, and the U.K. are brought in to round out the picture and show just how wide the international divergence really is. By tracking the judicial interpretations, legislative innovations, and regulatory strategies across these jurisdictions, this section shows how national-level choices clash with TRIPS core principles--particularly national treatment and minimum protection standards--and pile on compliance uncertainties for multinational enterprises doing cross-border AI commerce. The section wraps up by bringing these divergent practices together to highlight the procedural and remedial deficiencies of the WTO dispute settlement mechanism in AI-related disputes.

3.1. Conflict between U.S. judicial practice and the TRIPS system: the expansive interpretation of the fair use doctrine vis-à-vis the "Three-Step Test"

In AI copyright disputes, the attitude of the U.S. courts will directly influence how "fair use" under the TRIPS framework is interpreted internationally. The U.S. fair use doctrine, codified in Section 107 of the Copyright Act, functions as the domestic implementation of the "three-step test" under Article 13 of TRIPS [2]. Under the four-factor analysis, Stability AI and similar defendants are likely to argue that ingesting copyrighted images for model training constitutes fair use. However, this expansive interpretation has sparked widespread debate at the crossing field of generative AI and copyright law [1]. The central contradiction lies in the fact that machine learning systems seldom "transform" the databases they used during training--they whole databases for commercial purposes--which may conflict with the transformative use standard that has dominated fair use jurisprudence [8]. If large-scale reproduction of AI training data were recognized as fair use, it could substantively undermine the minimum protection standards stipulated by TRIPS, and stand in tension with the Article 13 requirement that exceptions "not conflict with the normal exploitation of the work," as AI-generated content may directly substitute for the original work's market position [2, 10].

3.2. Deviation between EU legislative practice and the TRIPS system: TDM exceptions and compliance barriers arising from the transparency obligations of the AI Act

The EU has adopted a markedly different path from the U.S. The Digital Single Market (DSM) Directive (EU) 2019/790 introduced text and data mining (TDM) exceptions: Article 3 stipulates a mandatory exception for scientific research organizations, while Article 4 stipulates a broader TDM exception for commercial actors, subject to a right of opt-out by rights holders [12]. From the TRIPS perspective, the EU's TDM exception system constitutes a specific application of the Article 13 three-step test [2].

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However, this regulatory approach of the EU has instead made compliance more difficult. The AI Act, published in July 2024, imposes stringent transparency obligations on general-purpose AI (GPAI) model providers, requiring them to draft out and publish an adequately detailed breakdown of the training materials to satisfy EU copyright due diligence obligations, particularly by respecting rights reservations expressed under Article 4(3) of the DSM Directive through state-of-the-art technical tools [13].

The AI Act makes it clear that the DSM Directive's TDM exception applies to AI training, but the big collective rights organizations have raised red flags--they point out that TDM exceptions were never really built to handle the "expressive and synthetic" nature of generative AI training, and this structural legal mismatch could end up warping what EU copyright exceptions were actually meant to do. On top of that, the transparency obligations might help with oversight, but they don't actually fix the core copyright problem; and without a unified machine-readable opt-out standard, the whole thing is even harder to put into practice [10]. When all these compliance requirements are stacked together, and considering the TDM exceptions and the legal mismatch between generative AI training and traditional AI, multinational enterprises will face some serious compliance issues, as well as the possibility of regulatory fragmentation.

3.3. The impact of extraterritorial divergent practices on the TRIPS Agreement's National Treatment and minimum protection standards

The divergent paths of the U.S. and the European Union pose substantive challenges to the core principles of the TRIPS Agreement, and the divergence extends well beyond these two jurisdictions. Applying existing intellectual property rules to AI causes specific challenges, and international trade laws leave considerable discretion at the national level [11]. Japan's Intellectual Property Strategy Headquarters has taken the position that AI-generated content does not constitute a copyrightable work, as it does not qualify as a "work expressing thought or sentiment" under the Copyright Act. Australia's Copyright Law Review Committee has recommended creating a neighboring right--rather than copyright protection--for computer-generated content, deliberately shifting terminology from "computer-generated work" to "computer-generated content" [7]. The U.K., first to enact "computer-generated works," has seen just one relevant case--and that provision presumes, debatably, that computers "create" works without creative contribution from humanity--a hypothesis that the World Intellectual Property Organization has also viewed with skepticism. Meanwhile, the U.S. Copyright Office requires that registered works be "created by a human," and U.S. courts have held that a "monkey selfie" does not constitute a work [7].

From the expansive and reasonable use in the U.S., to the tiered TDM and transparency system in the European Union, to the exclusion of AI-generated content from copyright in Japan, to the neighboring rights model in Australia, and to the scarce application of computer-generated works provisions in the U.K. --this wide range of practical approaches has led to profound differences in the treatment of AI-generated content across various legal jurisdictions. When the American case law expands "fair use", it actually reduces the level of protection available to foreign copyright holders, potentially constituting an indirect violation of the national treatment principle [2]. In the EU, the opt-out mechanism may produce de facto discrimination, as large enterprises with sophisticated copyright management systems can effectively declare opt-outs, while individual creators and small enterprises may lack the resources to exercise this right [10]. These extraterritorial divergent practices challenge both the national treatment principle and the minimum protection standards established by TRIPS.

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3.4. Procedural lag and remedy deficiencies of the WTO dispute settlement mechanism in AI cases

The dispute settlement mechanism exhibits in WTO pronounced deficiencies when handling AI-related intellectual property disputes. At first, the average duration of WTO proceedings far exceeds the iteration cycle of AI technology, rendering outcomes obsolete before they are issued [4]. Furthermore, the mechanism can only resolve trade frictions between states and cannot provide direct remedies for aggrieved enterprises, who must rely on national courts or arbitration mechanisms of individual countries. What's more, WTO group of panels face significant technical cognitive barriers when handling AI-related disputes, as the technical details of AI training processes fall beyond the professional expertise of traditional trade dispute experts. In the end, the appellate body is paralyzed since December 2019 means that the two-tier adjudicative process cannot function as designed, and TRIPS disputes may lack definitive resolution. On the other hand, TRIPS disputes exclude non-violation complaints--a limitation that restricts the scope of available relief [4]. This misalignment between the state-level mechanism and enterprise-level demands renders the DSU unable to play a substantive role in resolving AI intellectual property disputes.

4. Problem resolution: improvement paths for the AI commercial dispute settlement mechanism under the TRIPS framework

After analyzing the structural flaws of the current dispute settlement mechanism of TRIPS and the exacerbated extraterritorial disputes, this section proposes a multi-level improvement framework, which unfolds from three complementary dimensions. First of all, international commercial arbitration is adopted as an alternative dispute resolution (ADR) method at the enterprise level, leveraging its confidentiality, procedural flexibility, and access to professional expert resources, to address the procedural lag and legal remedy gaps within the WTO system. Secondly, it functions at the transaction level, embedding the core principles of the TRIPS Agreement - particularly the three-step test standard and the obligation of national treatment - into cross-border enterprise data licensing and arbitration contracts, resolving jurisdictional conflicts through private law adjudication rather than inter-state litigation. Third, focusing on the institutional level, it advocates for modernizing the TRIPS Agreement itself, clarifying the legal status of AI-generated content and establishing updated substantive standards reflecting contemporary technological realities. These three paths collectively form a comprehensive solution that not only meets current practical needs but also promotes long-term institutional evolution, moving from the most easily implementable mechanisms to more ambitious structural reforms.

4.1. Introducing international commercial arbitration to remedy the procedural and remedial deficiencies of the WTO dispute settlement mechanism

The dispute settlement mechanism in WTO is indeed not very effective in handling disputes over AI intellectual property rights. In contrast, international commercial arbitration has shown obvious application and advantages. International arbitration offers three universally recognized advantages: confidentiality, which protects sensitive materials and mitigates reputational risk; procedural flexibility, which allows parties to streamline procedures and bypass lengthy pre-trial discovery; and the freedom to select arbitrators with specialized expertise and industry experience [14]. For cross-border commercial disputes specifically, international arbitration provides a singular platform for discussion that avoids jurisdictional conflicts between national courts, an impartial platform

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conducted in a neutral forum, and legally binding decisions enforceable under the New York Convention--which has been ratified by approximately 170 nations and significantly facilitates the recognition and enforcement of arbitration award [14]. International arbitration is thus evolving from a "cottage industry" into a principal method for resolving transnational disputes, supported by two pillars: the 1985 UNCITRAL Model Law on International Commercial Arbitration and the 1958 New York Convention [15].

In the intellectual property domain, WIPO has developed comprehensive ADR mechanisms--including mediation, arbitration, and expert determination--that offer distinct advantages for IP disputes: party autonomy, a single process with Judicial neutrality and professional independence, procedural simplicity and flexibility, time and cost savings, confidentiality, finality, and executability. The WIPO Arbitration and Mediation Center has accumulated substantial case management experience and has established cooperative relationships with multiple national intellectual property offices [16].

For intellectual property disputes related to artificial intelligence, the arbitration process can be adapted to the speedy iteration of AI by simplifying the procedures and shortening the trial periods. The composition of the arbitration tribunal can include experts with backgrounds in artificial intelligence technology, effectively compensating for the lack of technical understanding of courts and WTO expert groups. To address the limitations of the current copyright law in dealing with the use of artificial intelligence in works, arbitration can adopt a more open and flexible approach, such as identifying and adjudicating text and data mining activities in specific circumstances or conditions, allowing for a tailored balance between developers' need for data access and the protection of copyright owners' rights [9].

4.2. Incorporating TRIPS substantive principles into multinational enterprise data licensing and arbitration contracts to dissolve extraterritorial divergent conflicts

At the practical level, multinational enterprises can incorporate arbitration clauses into data licensing agreements and apply the substantive principles of TRIPS as the applicable law for contract interpretation. Through clear contractual terms, they can effectively avoid the uncertainties caused by the expansive interpretation of "fair use" by the U.S. and the fragmented nature of the EU's TDM exception. Enterprises can stipulate in the contract the scope and duration of the use of AI training data, the copyright ownership of AI-generated content, and determine the standard of "fair use" by referring to the "three-step test" in Article 13 of TRIPS [2].

With regard to the copyright ownership of AI-generated content, the "AI owner approach"--which attributes copyright to the owner of the AI system rather than the developer, user, or the AI itself--offers higher legal certainty and lower transaction costs compared to alternative allocation schemes, and can be flexibly adjusted through contracts in specific licensing scenarios [17]. This approach transforms state-level multilateral obligations into enforceable enterprise-level contractual obligations. Furthermore, because the transparency obligations under the EU AI Act, while supportive of oversight, do not resolve the core copyright challenges, enterprises can incorporate more robust transparency and disclosure commitments into their contracts--going beyond the AI Act's requirements by specifying training data provenance, rights reservation mechanisms, and compensation arrangements [10]. The contractual stratification of substantive principles and the obligation to enhance transparency in the TRIPS Agreement can resolve the current conflicts and disputes over extraterritorial jurisdiction that plague cross-border artificial intelligence businesses.

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4.3. Promoting the modernization reform of the TRIPS Agreement to clarify the legal status of AI-generated content

In the long run, it is necessary to modernize the TRIPS agreement. The TRIPS negotiations were based on existing international and domestic intellectual property laws, and the "minimum standards" established were exceptionally high-regardless of the level of development, they were uniformly applied, which triggered continuous criticism and gave rise to the "TRIPS-plus" trend through preferential trade agreements. The lesson from TRIPS history is that future revisions must construct a more balanced and flexible international intellectual property framework [18]. The Council for TRIPS should conduct a specialized study on copyright protection for content generated by artificial intelligence, addressing the fundamental issue of whether the output of artificial intelligence constitutes a "work" in the sense of TRIPS.

This question is complicated by deep scholarly disagreement. The "human-in-the-loop" theory supports recognizing AI-generated content as copyrightable, with rights attributed to the AI owner by analogy to the legal entity work system, on the ground that the AI's independent will can be regarded as originating from the designer's training process. This approach is grounded in the private law principle that rights subjects and objects are strictly divided and non-interchangeable: AI, as a rights object, cannot become a rights subject, and granting machines copyright-holder status would disrupt the entire existing legal framework for rights transfers and tort liability [6]. Under this view, since AI-generated content can meet the originality threshold through human value judgments in the training process, the law should recognize it as a work and attribute rights to a human entity [6]. Opposing scholars counter that if the content generation process does not constitute "creation" and the content is not a "work," there is no basis for deeming non-participating parties as authors through legal fiction--the premise of legal entity authorship presupposes that the content already qualifies as a work [7]. A third perspective proposes an "originality causation test," under which only works resulting from human creative choices should receive copyright protection, while products of non-human creative choices should fall into the public domain--copyright law's fundamental purpose being to encourage and promote human creativity and progress, not to protect machine-generated outputs [19].

Given these competing positions, the modernization of TRIPS should not prematurely mandate a single approach, but rather establish a framework that: (1) clarifies the distinction between AI-assisted and AI-autonomous content; (2) provides guidance on the originality standard applicable to AI outputs; (3) addresses the rights attribution question in light of the private law principle that AI cannot be a rights subject; and (4) draws inspiration from the transparency obligations of EU AI Act to promote responsible AI development while protecting intellectual property [6, 13]. Through the updating and supplementation of substantive rules, the TRIPS Agreement will be better equipped to adapt to the technological realities of the AI era.

5. Conclusion

With the speedy commercialization of AI technology, the intellectual property dispute settlement mechanism under the TRIPS Agreement is facing unprecedented challenges. Through an analysis of the effects of AI commercial applications on the current TRIPS mechanism, combined with the divergent paths of extraterritorial practices in the U.S., the European Union, and other jurisdictions--including Japan, Australia, and the U.K.--this paper reveals the core problems of the WTO inter-state dispute settlement procedure: procedural lag, absence of enterprise-level remedies, paralysis of the appellate body, and substantive uncertainty regarding the copyrightability of AI-generated content.

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The scholarly debate between the "human-in-the-loop" theory and the "calculation not creation" argument underscores the difficulty of achieving consensus on the legal status of AI outputs.

The research shows that relying solely on the trade dispute mechanism between countries simply cannot meet the efficiency requirements of business entities. International commercial arbitration, by virtue of its confidentiality, procedural flexibility, expertise, and executability among countries under the New York Convention, provides a more efficient resolution path for cross-border AI intellectual property disputes. Incorporating TRIPS substantive principles into multinational enterprise data licensing contracts and arbitration clauses enables the effective implementation of multilateral rules at the enterprise level. In the future, with the further modernization of the TRIPS Agreement--guided by the lessons of its negotiation history and the need for greater balance and flexibility--the international community is expected to realize a new equilibrium between promoting technological innovation in artificial intelligence and protecting fair intellectual property rights.

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