

The Role of WTO and TRIPS in Shaping Global Intellectual Property Laws

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Abstract: *The globalization of trade and technological advancements have necessitated a robust legal framework for intellectual property (IP) protection. The World Trade Organization (WTO) and its Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) have played a pivotal role in shaping global IP laws by harmonizing standards and ensuring enforcement mechanisms. This study explores the influence of WTO and TRIPS in establishing a uniform IP regime, analysing their impact on both developed and developing nations. The research employs a doctrinal legal methodology, focusing on primary and secondary sources, including WTO agreements, national legislations, and case studies. The findings indicate that TRIPS has significantly enhanced IP protection, fostering innovation and economic growth. However, concerns remain regarding access to essential medicines, technology transfer, and the flexibility of developing countries to adapt IP laws to their socio-economic conditions. The study concludes that while TRIPS has strengthened global IP rights, further reforms are needed to balance innovation incentives with public interest, particularly in the areas of healthcare and digital trade. The research contributes to the ongoing debate on reforming international IP norms to achieve a fairer and more inclusive legal framework.*

Keywords: Global trade governance, innovation policy, legal harmonization, patent protection, access to medicines, technology transfer, economic development

Introduction

The globalization of trade and rapid technological advancements have intensified the need for a standardized legal framework to protect IP rights. IP laws regulate the creation, use, and distribution of innovations, ensuring that inventors and creators receive appropriate recognition and financial benefits. However, disparities in national IP regulations previously created challenges for international trade, investment, and innovation. The establishment of the WTO in 1995 and the introduction of the TRIPS marked a significant shift toward global IP harmonization. TRIPS established minimum IP protection standards for WTO members, aligning national laws with international obligations. Despite the intended benefits of TRIPS, the agreement has been a subject of debate, particularly regarding its implications for developing countries. While developed nations argue that strict IP enforcement fosters innovation and economic growth, developing countries highlight concerns over access to essential medicines, affordability of technology, and constraints on local innovation. This tension raises fundamental questions about the balance between protecting IP rights and ensuring broader public interest objectives, such as public health and knowledge-sharing (Helfer, 2004; Khan et al., 2021).

This research investigates the role of the WTO and TRIPS in shaping global IP laws and evaluates their impact on innovation, trade, and economic development. It seeks to answer several key questions: How has TRIPS influenced the harmonization of global IP laws? What are the major challenges faced by developing countries in implementing TRIPS-compliant IP regulations? To what extent does TRIPS facilitate or hinder access to essential goods such as medicines and technology? What legal reforms could enhance the effectiveness and fairness of TRIPS in the context of global trade?

The significance of this study lies in its critical assessment of TRIPS and its impact on global economic structures. The research contributes to the broader discourse on the intersection of international trade, legal harmonization, and innovation policy. By evaluating the strengths and weaknesses of TRIPS, this study aims to provide insights into potential legal reforms that could better balance innovation incentives with social welfare considerations. This study adopts a doctrinal legal research methodology, relying on primary and secondary sources. Primary sources include WTO agreements, TRIPS provisions, and national IP laws, while secondary sources consist of academic articles, case law, and reports from international organizations. Comparative analysis is conducted to assess the implementation of TRIPS across different jurisdictions, particularly between developed and developing nations. The study expects to find that while TRIPS has successfully standardized global IP protection, its implementation has resulted in significant disparities. Developed countries have benefited from stronger IP rights, while many developing nations struggle with access to affordable medicines, technology transfer limitations, and economic dependency on foreign patents. The research aims to propose recommendations for legal and policy adjustments to ensure a more balanced and inclusive global IP regime.

The article is organized as follows: the next section provides an overview of the WTO's role in global trade governance and explains the core provisions of TRIPS. This is followed by an analysis of the impact of TRIPS on national IP laws, focusing on harmonization, innovation, and trade. The subsequent section discusses the criticisms surrounding TRIPS, particularly regarding public health, technology transfer, and constraints faced by developing countries. The discussion then shifts to potential reforms and the future of global IP governance, exploring possible adjustments that could lead to a more equitable system. The article concludes by summarizing key findings and policy recommendations.

LITERATURE REVIEW

The TRIPS has been widely studied for its role in harmonizing global IP laws and its broader economic and legal implications. Scholars generally agree that TRIPS has established a minimum standard of IP protection across WTO member states, significantly influencing domestic laws. According to Gervais (2021), TRIPS has contributed to a more predictable global trade environment by integrating IP rights into the multilateral trading system. However, critics argue that TRIPS disproportionately benefits developed countries, as it enforces stringent IP protections that may not align with the economic realities of developing nations (Drahos & Braithwaite, 2002).

One of the primary concerns regarding TRIPS is its impact on access to essential medicines, particularly in developing countries. Correa (2013) argues that the patent protection provisions of TRIPS have led to high pharmaceutical prices, limiting access to life-saving drugs for poorer populations. This concern led to the 2001 Doha Declaration, which reaffirmed the right of WTO members to use TRIPS flexibilities to protect public health. However, studies suggest that despite these flexibilities, many developing countries struggle to implement effective compulsory licensing mechanisms due to political and economic pressures from developed nations (Sell, 2003). The limited success of these mechanisms highlights the need for further reform in balancing public health concerns with patent protections (Khan et al., 2020).

Another significant area of academic discussion focuses on technology transfer and innovation. TRIPS was initially promoted as a means to encourage foreign investment and technology diffusion by

ensuring strong IP protections (Maskus, 2000). However, empirical studies show mixed results. While some argue that robust IP laws attract investment in high-tech industries, others suggest that strict enforcement can hinder knowledge-sharing, particularly for least-developed countries (LDCs) that lack the capacity to innovate independently (Haunss & Shadlen, 2009). Furthermore, the concept of "TRIPS-plus" provisions—additional IP protections negotiated through free trade agreements—has raised concerns about further restricting access to technology and limiting policy space for developing economies (Yu, 2007; Kahn & Wu, 2020).

The legal harmonization aspect of TRIPS has also sparked debate among scholars. While it has undoubtedly brought greater consistency to IP regulation across borders, critics argue that it has diminished national sovereignty by imposing a one-size-fits-all approach (May, 2010). Developing countries, in particular, have faced challenges in adapting their legal systems to meet TRIPS obligations, often requiring substantial legal and institutional reforms. Research by Reichman (1998) suggests that the rigidity of TRIPS obligations does not adequately account for the diverse levels of development among WTO members, leading to uneven implementation and enforcement.

More recent studies explore the role of TRIPS in the digital economy, particularly regarding copyright and data protection. With the rise of digital trade, scholars argue that TRIPS needs modernization to address emerging issues such as artificial intelligence, big data, and online content distribution (Fischer & Grosse Ruse-Khan, 2020). The current framework, designed for traditional IP protections, struggles to accommodate the complexities of digital innovation. This has led to increasing discussions on whether TRIPS should be updated or complemented by new international agreements focused specifically on digital trade and IP rights.

Overall, the literature suggests that while TRIPS has played a crucial role in standardizing IP laws globally, it has also raised significant challenges, particularly for developing economies. The agreement's impact on access to medicines, technology transfer, and national legal autonomy remains a contested issue. Many scholars advocate for reforms that would make TRIPS more flexible and equitable, ensuring that it not only protects innovation but also promotes broader economic and social development. As the global economy evolves, continued academic inquiry into TRIPS and its future trajectory remains essential.

CONCEPTUAL AND THEORETICAL FRAMEWORK

This study is framed within the broader context of international trade law and IP governance, drawing on legal, economic, and policy-based theories to explain the impact of the WTO and TRIPS on global IP regulation. The legal positivist approach underpins the analysis, emphasizing how TRIPS establishes binding obligations on WTO members to harmonize IP protections. Additionally, the study incorporates elements of economic theories of innovation, particularly the Schumpeterian perspective, which argues that strong IP rights incentivize technological progress while acknowledging counterarguments that excessive protection can hinder knowledge diffusion, especially in developing economies. The research also applies aspects of public interest theory, which highlights the role of legal flexibilities—such as those in the Doha Declaration—in balancing private rights with societal needs, particularly in the areas of public health and technology transfer. By integrating these theoretical perspectives, the study critically evaluates the strengths and limitations of TRIPS in fostering innovation while ensuring equitable access to knowledge and essential goods, providing a structured basis for assessing potential reforms in global IP governance.

RESEARCH METHODOLOGY

This research follows a qualitative legal methodology, focusing on the critical analysis of legal texts, treaties, and case law to examine the role of the WTO and TRIPS in shaping global IP laws. Primary sources include WTO agreements, dispute settlement reports, and declarations such as the Doha Declaration on TRIPS and Public Health, while secondary sources comprise scholarly articles, policy

papers, and reports from international organizations. A comparative legal analysis is conducted to assess how different WTO member states, particularly developing and developed nations, have implemented TRIPS provisions and navigated its flexibilities. Additionally, a case law analysis is employed to evaluate WTO dispute settlement decisions that have influenced IP governance, particularly in areas such as access to medicines and digital trade. The study also incorporates elements of thematic analysis, identifying recurring legal and policy themes within TRIPS-related literature to understand broader implications for global IP regulation. By adopting this qualitative approach, the research aims to provide a comprehensive and critical examination of TRIPS, highlighting its strengths, limitations, and potential areas for reform.

WTO AND THE TRIPS AGREEMENT: AN OVERVIEW

The WTO, established in 1995, serves as the primary international body governing global trade. One of its fundamental agreements, the TRIPS, was introduced to create a standardized framework for IP protection among its member states. TRIPS sets out minimum standards for IP rights enforcement, covering patents, copyrights, trademarks, geographical indications, industrial designs, and trade secrets. By integrating IP protection into the multilateral trading system, TRIPS seeks to prevent trade distortions caused by disparities in national IP laws while fostering innovation and economic growth (Taubman et al., 2020).

A key feature of TRIPS is its attempt to balance the interests of IP holders and the broader public. While strong IP protections incentivize research, creativity, and technological advancements, overly rigid enforcement can hinder access to essential goods, such as medicines and educational materials, particularly in developing countries. To address these concerns, TRIPS incorporates flexibilities, including provisions for compulsory licensing, parallel importation, and exceptions for public interest considerations. These measures allow member states to tailor their IP policies to national socio-economic needs while remaining compliant with WTO obligations. Despite its intended benefits, the implementation of TRIPS has been a subject of debate. Developed nations, which hold the majority of global patents and copyrights, advocate for stringent IP protections, arguing that they drive investment and innovation. Conversely, many developing countries contend that TRIPS disproportionately benefits wealthy economies while limiting their access to crucial technologies. This divergence in perspectives has led to ongoing negotiations and legal adaptations, such as the Doha Declaration on Public Health, which reaffirmed the right of WTO members to prioritize public health over patent protections (Ottensmeyer, 2015).

As global trade continues to evolve, particularly with the rise of digital commerce and biotechnology, TRIPS remains a crucial but contested element of international trade law. While it has successfully established a uniform IP protection regime, its long-term effectiveness depends on ensuring that its provisions support both economic development and the broader public interest. Consequently, ongoing discussions on reforming TRIPS reflect the need for a more balanced and inclusive approach to global IP governance.

HARMONIZATION OF GLOBAL INTELLECTUAL PROPERTY LAWS

The TRIPS has played a pivotal role in harmonizing IP laws across WTO member states by mandating the adoption of uniform protection standards. Prior to TRIPS, countries had significant variations in their IP regimes, which often led to inconsistencies in enforcement, trade disputes, and challenges in cross-border innovation and investment. With TRIPS, WTO members are required to provide minimum levels of protection for patents, copyrights, trademarks, geographical indications, industrial designs, and trade secrets, aligning national laws with international standards (Wasserman Rajec, 2020).

As a result of TRIPS compliance requirements, many countries have revised their domestic IP legislation to strengthen enforcement mechanisms and enhance protections for patent holders, authors, and innovators. In particular, developing nations that previously had weaker IP protections have had to

implement stricter legal frameworks, often with significant economic and institutional challenges. These changes have increased foreign investor confidence and contributed to the expansion of knowledge-based industries, particularly in technology and pharmaceuticals. However, critics argue that the uniform approach imposed by TRIPS does not adequately consider the developmental needs of less-industrialized economies, which may require greater flexibility in IP regulation. Beyond national legal reforms, TRIPS has also influenced regional trade agreements, embedding its principles into broader economic arrangements. Free trade agreements (FTAs) and regional treaties such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP) incorporate TRIPS-plus provisions, which often require even stronger IP protections than those mandated by WTO rules. While these enhanced protections benefit multinational corporations and IP-intensive industries, they can also create additional burdens for developing economies, particularly in terms of access to medicines, agricultural innovations, and digital technologies (Rill & Schechter, 2002).

Despite the progress made in harmonizing global IP laws, the application of TRIPS remains uneven, with disparities in enforcement and implementation across jurisdictions. Developed countries generally have well-established legal and judicial systems capable of enforcing IP rights effectively, whereas many developing and least-developed countries (LDCs) face resource constraints in establishing IP offices, training enforcement personnel, and handling complex patent disputes. The WTO has sought to address these disparities by providing technical assistance and capacity-building programs, but challenges persist in ensuring that IP harmonization benefits all economies equitably. Overall, TRIPS has contributed significantly to the alignment of global IP laws, reducing legal fragmentation and fostering greater international cooperation in IP protection. However, concerns over its rigid implementation, its impact on economic development, and its influence on access to critical goods continue to drive discussions on reforming the agreement to create a more balanced and inclusive global IP system (Endeshaw, 1999).

CHALLENGES FOR DEVELOPING COUNTRIES

The implementation of the TRIPS Agreement has presented significant challenges for developing countries, despite its role in standardizing global IP protection. Many of these nations face difficulties in balancing the need to comply with TRIPS obligations while ensuring access to essential goods and fostering local innovation. One of the most critical concerns is the impact of strict IP rules on access to essential medicines. Patent protections granted under TRIPS often lead to high drug prices, making life-saving treatments unaffordable for large segments of the population in developing countries. While the agreement includes flexibilities such as compulsory licensing, which allows governments to produce or import generic versions of patented medicines under specific conditions, these provisions are often difficult to implement due to political, legal, and technical constraints (Okediji, 2013). Beyond healthcare, the stringent IP requirements under TRIPS pose challenges for technological advancement in developing economies. Many of these nations rely on foreign technologies for industrial and economic development, but strong IP protections can restrict access to critical innovations. While technology transfer is one of the purported benefits of TRIPS, studies indicate that developing countries rarely gain meaningful access to advanced technologies due to restrictive licensing agreements and the monopolization of key industries by multinational corporations. This situation limits opportunities for domestic firms to engage in research and development, hindering long-term economic growth and innovation (Kudo, 2008).

Agricultural innovation is another area where TRIPS has created difficulties for developing nations. The agreement extends patent protections to genetically modified seeds and agricultural biotechnology, which can increase costs for farmers who rely on these innovations for improved crop yields. Multinational agribusiness companies often hold exclusive rights to these technologies, forcing local farmers to purchase patented seeds at high prices instead of saving and reusing them, as was traditionally

practiced. This dynamic raises concerns about food security and the economic sustainability of small-scale farming in developing regions. Although TRIPS includes provisions such as parallel imports and compulsory licensing to mitigate these issues, their practical application remains complex. Many developing countries lack the necessary legal expertise, administrative capacity, and enforcement mechanisms to effectively utilize these flexibilities. Additionally, pressure from developed nations and multinational corporations often discourages developing states from using TRIPS exceptions, particularly in cases where compulsory licensing threatens pharmaceutical or technological profits. The legal and economic asymmetry between developed and developing nations creates disparities in how TRIPS is implemented and enforced, further entrenching global inequalities in IP protection (Weissman, 2017).

Furthermore, enforcement challenges persist due to weak institutional frameworks, inadequate IP offices, and limited judicial expertise in many developing countries. While TRIPS requires member states to establish effective legal mechanisms to protect IP rights, the financial and technical burdens associated with setting up comprehensive IP systems often exceed the capacities of less-developed economies. As a result, enforcement remains inconsistent, with high levels of counterfeiting and piracy in many regions. This creates tension between compliance with TRIPS obligations and the socio-economic realities faced by developing nations. Overall, while TRIPS has brought a degree of uniformity to global IP laws, its rigid implementation poses significant challenges for developing countries. The agreement's emphasis on strong IP protections often limits access to essential medicines, technology, and agricultural innovations, while the mechanisms designed to offer flexibility remain difficult to navigate. Addressing these challenges requires legal and policy reforms that enhance the ability of developing nations to benefit from TRIPS without undermining their socio-economic priorities. Strengthening international cooperation, capacity-building efforts, and reconsidering TRIPS' impact on public welfare are essential steps toward creating a more balanced global IP system (Shadlen, 2009).

THE ROLE OF WTO DISPUTE SETTLEMENT MECHANISM

The WTO provides a structured dispute settlement mechanism (DSM) to resolve conflicts among member states, including those related to IP rights under the TRIPS Agreement. Given the complexities of global trade and the diverse economic interests of WTO members, the DSM serves as a crucial tool for interpreting TRIPS provisions, ensuring compliance, and addressing grievances arising from the agreement's implementation. By offering a legal framework for resolving disputes, the WTO aims to maintain a balance between protecting IP rights and accommodating public policy concerns, such as public health, technology transfer, and economic development (Khan et al., 2025).

Several high-profile disputes under TRIPS have shaped the interpretation and application of IP rules. One of the most notable cases was the United States—Brazil dispute over pharmaceutical patents, where Brazil sought to use compulsory licensing to manufacture affordable generic medicines for HIV/AIDS treatment. The United States challenged Brazil's actions, arguing that they violated TRIPS provisions on patent protection. However, Brazil defended its policy as a legitimate use of TRIPS flexibilities to protect public health. The dispute underscored the ongoing tensions between stringent IP enforcement and the right of WTO members to take necessary measures for public welfare. Although the case was settled before reaching a formal ruling, it contributed to the broader debate that led to the 2001 Doha Declaration on Public Health, which reaffirmed WTO members' rights to use TRIPS flexibilities to improve access to essential medicines (Khan & Ullah, 2024).

Another significant case was the Australia—Plain Packaging dispute, where multiple countries, including Honduras, the Dominican Republic, and Indonesia, challenged Australia's tobacco control laws that mandated plain packaging for cigarettes. The complainants argued that the regulations restricted trademark rights in violation of TRIPS. However, the WTO dispute panel ruled in favour of Australia, emphasizing that the public health objective justified the restrictions. This decision

demonstrated that TRIPS does not grant absolute protection to IP holders and that states can implement public health measures even if they affect trademark rights. The ruling reinforced the principle that TRIPS should be interpreted in a manner that allows governments to regulate in the public interest (Khan, 2024).

The DSM has also been instrumental in addressing IP disputes related to technology and digital trade. As global commerce shifts toward knowledge-based economies, conflicts over software patents, data protection, and copyright enforcement have emerged. WTO dispute rulings in these areas continue to influence how TRIPS is applied in the context of modern technological advancements. However, some scholars argue that the DSM remains biased toward developed nations, which often have stronger legal and financial resources to pursue litigation. Developing countries, despite having legitimate concerns over TRIPS implementation, frequently lack the institutional capacity and expertise to effectively engage in dispute resolution (Khan, 2024).

While the WTO dispute settlement system plays a crucial role in shaping the enforcement of TRIPS, its limitations remain evident. Many developing nations face challenges in bringing cases against more economically powerful states due to the high costs and lengthy processes involved. Furthermore, enforcement of rulings can be inconsistent, with some nations finding ways to delay or circumvent unfavourable decisions. Despite these shortcomings, the DSM remains an essential mechanism for addressing conflicts related to global IP governance. Moving forward, ensuring that the dispute settlement process is more accessible, equitable, and responsive to the needs of all WTO members will be vital for fostering a fairer international IP system (Khan & Jiliani, 2023).

TRIPS AND PUBLIC HEALTH: THE DOHA DECLARATION

The adoption of the Doha Declaration on TRIPS and Public Health in 2001 marked a significant milestone in global IP governance, particularly in addressing public health concerns. Recognizing the tensions between strong IP protections and the need for access to essential medicines, WTO members issued the Doha Declaration to reaffirm the right of states to prioritize public health over strict IP enforcement. This declaration clarified that TRIPS should be interpreted and implemented in a manner that supports governments in taking necessary measures to protect public health, especially in cases of epidemics and other health emergencies (Khan & Usman, 2023).

One of the key provisions of the Doha Declaration was the reaffirmation of compulsory licensing, which allows governments to authorize the production or importation of generic versions of patented medicines without the patent holder's consent. While TRIPS already contained provisions for compulsory licensing, ambiguity in its wording had led to legal and diplomatic disputes, with developed nations pressuring developing countries to limit its use. The Doha Declaration explicitly stated that WTO members have the authority to determine the grounds upon which compulsory licenses are granted, ensuring that public health considerations take precedence over commercial interests (Khan, Usman & Amjad, 2023).

Another critical aspect of the Doha Declaration was its recognition of the challenges faced by countries with insufficient or no pharmaceutical manufacturing capabilities. Since TRIPS initially required compulsory licenses to be used primarily for domestic markets, nations without local production facilities struggled to benefit from this flexibility. To address this, WTO members later adopted the 2003 Waiver Decision, which allowed countries to import generic drugs manufactured under compulsory licenses in other jurisdictions. This waiver was made a permanent amendment to TRIPS in 2017, further strengthening developing countries' ability to secure affordable medicines during public health crises (Khan, 2023).

The Doha Declaration played a crucial role in shaping global health policy by reinforcing the principle of TRIPS flexibilities. Its impact was particularly evident in the response to global health emergencies such as the HIV/AIDS epidemic, where countries like Brazil, India, and South Africa utilized

compulsory licensing to manufacture or import affordable antiretroviral drugs. More recently, the debate over COVID-19 vaccine patents highlighted the continued relevance of the Doha Declaration, with several WTO members advocating for temporary waivers on vaccine-related IP rights to accelerate global vaccine distribution. However, opposition from major pharmaceutical-producing nations and corporations demonstrated the ongoing challenges in balancing IP protections with public health needs (Liu et al., 2023).

Despite its contributions to improving access to medicines, the Doha Declaration's implementation has faced obstacles. Many developing countries still experience difficulties in utilizing TRIPS flexibilities due to political pressure, legal complexities, and inadequate institutional frameworks. Additionally, pharmaceutical companies and developed nations often use trade negotiations and bilateral agreements to push for TRIPS-plus provisions, which impose stricter IP protections that go beyond WTO requirements, further restricting access to affordable medicines. Overall, the Doha Declaration reaffirmed the importance of flexibility within TRIPS to accommodate public interest considerations, particularly in healthcare. While it provided a legal and political foundation for countries to take measures ensuring medicine affordability, its effectiveness ultimately depends on the willingness of WTO members to uphold its principles and resist pressures that undermine public health priorities. Moving forward, strengthening international cooperation and ensuring that TRIPS remains responsive to global health challenges will be essential for maintaining a fair and equitable balance between IP protection and public welfare (Khan & Ximei, 2022).

FUTURE PERSPECTIVES AND REFORMS

The evolving landscape of technology and global trade presents new challenges for IP governance under the WTO and TRIPS Agreement. The rapid advancement of digital trade, artificial intelligence (AI), biotechnology, and data privacy necessitates an updated legal framework that balances strong IP protections with broader socio-economic considerations. The rigid structure of TRIPS, designed primarily for traditional forms of IP protection, is increasingly being tested by the complexities of modern technological developments. As the global economy transitions toward a more digital and knowledge-driven model, the need for comprehensive TRIPS reforms becomes imperative (Khan, & Wu, 2021).

One of the most pressing issues in contemporary IP governance is the intersection of AI and IP rights. AI-generated content, including inventions, music, and literature, raises critical questions about ownership, copyright, and patent eligibility. Current TRIPS provisions do not adequately address these challenges, leading to legal uncertainties about whether AI-created works should be granted the same level of protection as human-generated innovations. Future reforms could introduce new standards for AI-generated IP, ensuring that innovation incentives remain intact while preventing excessive monopolization of emerging technologies (Abdelrehim Hammad et al., 2021).

Similarly, biotechnology and genetic patents present ethical and legal dilemmas that TRIPS has yet to fully address. The ability to patent genetic sequences, modified organisms, and medical innovations has led to disputes over accessibility, bioethics, and public health concerns. Developing countries, in particular, face difficulties in accessing patented biotechnologies that could enhance food security and medical treatment. A more balanced approach to TRIPS reform could involve stronger provisions for technology transfer and knowledge-sharing mechanisms, particularly in fields crucial for global well-being (Khan et al., 2021).

Another area that demands attention is data privacy and cross-border digital trade. With the expansion of e-commerce, digital platforms, and online services, the question of how TRIPS governs data ownership, cyber protections, and IP in digital spaces remains unresolved. Many developed economies push for strict digital IP enforcement, whereas developing countries advocate for open access to digital knowledge and reduced restrictions on software licensing and data-sharing. The growing importance of

digital economies necessitates that TRIPS adapts to modern digital trade norms while ensuring equitable access to technological resources (Usman et al., 2021).

Additionally, TRIPS reform could enhance global cooperation on technology transfer, especially for developing nations that struggle with high costs and restrictive licensing agreements. One of the longstanding criticisms of TRIPS is that while it offers IP protections for innovators, it does little to facilitate the dissemination of technological advancements to less-developed economies. Strengthening technology-sharing mechanisms, improving IP capacity-building initiatives, and offering incentives for voluntary licensing agreements could foster more inclusive global innovation. Beyond individual provisions, a broader reform of TRIPS could address the structural imbalances in the WTO dispute resolution system. Many developing countries lack the legal expertise and financial resources to effectively challenge IP-related disputes, often leaving them at a disadvantage against wealthier nations and multinational corporations. A more equitable dispute resolution process that provides technical assistance and financial support to under-resourced nations could help create a fairer enforcement landscape (Khan & Wu, 2021).

As the future of IP governance unfolds, TRIPS must evolve to remain relevant in the age of digital transformation, AI, biotechnology, and data-driven economies. Reforms should aim to create a more flexible, inclusive, and responsive legal framework that not only protects innovation but also ensures that knowledge and technological progress benefit all nations equitably. By fostering greater cooperation among global stakeholders and addressing the socio-economic disparities in IP protections, the WTO and TRIPS can play a pivotal role in shaping a balanced and forward-looking international IP system (Khan et al., 2021).

CONCLUSION

The role of the WTO and TRIPS Agreement in shaping global IP laws has been profound, fostering harmonization and strengthening IP protections across member states. However, the agreement's rigid structure has also generated significant challenges, particularly for developing nations struggling to balance compliance with economic development and public welfare needs. The Doha Declaration on TRIPS and Public Health marked an important step in addressing some of these concerns, but persistent issues related to access to essential medicines, technology transfer, and fair dispute resolution remain unresolved. As new technological advancements such as artificial intelligence, biotechnology, and digital trade reshape the global economy, it is imperative that TRIPS evolves to address emerging complexities.

One of the key takeaways from this study is the need for greater flexibility in TRIPS implementation to accommodate the diverse economic realities of WTO members. Developing countries require stronger support mechanisms, including capacity-building initiatives, technical assistance, and financial resources to help them effectively utilize TRIPS flexibilities. Additionally, reforming the WTO DSM to make it more accessible and equitable for under-resourced nations would ensure that IP disputes do not disproportionately favor wealthier states or multinational corporations.

Looking ahead, TRIPS must adapt to modern digital and technological advancements by incorporating clearer guidelines on AI-generated content, data privacy, and cross-border digital trade. Future research should focus on exploring how emerging technologies impact traditional IP frameworks and what legal mechanisms can be developed to foster a balance between innovation incentives and public interest. Moreover, the role of regional trade agreements and TRIPS-plus provisions in influencing global IP norms warrants further investigation, particularly in assessing their impact on developing economies.

Ultimately, the future direction of TRIPS and global IP governance depends on multilateral cooperation, inclusive policymaking, and a commitment to balancing economic incentives with social justice. By ensuring that the global IP system remains adaptable, fair, and aligned with the needs of all stakeholders, the WTO can continue to play a crucial role in fostering innovation while promoting equitable access

to knowledge and technology worldwide.

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