



## Critique of Intellectual Property Law Supervision and Policy: Towards a Structured System in Indonesia

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### Abstract

Intellectual property (IP) law plays a crucial role in fostering innovation, creativity, and economic growth by safeguarding intellectual assets such as inventions, trademarks, and artistic works. However, the rapidly evolving technological landscape, globalization, and the rise of digital platforms have exposed significant shortcomings in existing IP legal frameworks. Key challenges include inconsistent enforcement mechanisms, fragmented legal systems, online piracy, and insufficient stakeholder awareness, particularly in developing economies. Despite attempts at reform, IP policies often remain reactive and disconnected, limiting their ability to address cross-border complexities and technological advancements effectively. This study critically evaluates the current state of IP law, identifying gaps and proposing solutions for a cohesive, proactive framework. Employing a normative legal approach, it examines statutory provisions, case law, and policy documents, with key references including the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), WIPO standards, and regional agreements. Comparative analyses of the US, EU, and Japan provide insights into best practices and highlight policy deficiencies. The findings underscore five critical issues: weak enforcement mechanisms, fragmented legal frameworks, digital challenges, low stakeholder awareness, and gaps in international cooperation. The study advocates for harmonized enforcement strategies, increased stakeholder education, and strengthened cross-border collaboration. These recommendations aim to establish an adaptive IP system aligned with technological progress, fostering global innovation and effectively protecting creators and businesses.

**Keywords:** Indonesia, intellectual property law, supervision, policy, system

## I. Introduction

Intellectual property (IP) law plays a vital role in fostering innovation, creativity, and economic development.<sup>1</sup> It provides creators, inventors, and businesses with legal protection for their inventions, designs, trademarks, and artistic works.<sup>2</sup> However, the enforcement and supervision of IP law, particularly in the context of rapidly evolving technology, often face significant challenges. The increasing complexity of digital media, globalization, and the emergence of new technologies such as artificial intelligence and blockchain have exposed gaps in existing IP law frameworks.<sup>3</sup>

Recent studies have highlighted several weaknesses in the supervision and enforcement mechanisms of IP law.<sup>4</sup> These include inadequate coordination between national and international IP systems,<sup>5</sup> the growing challenge of online piracy,<sup>6</sup> insufficient IP education and awareness among stakeholders,<sup>7</sup> and weak enforcement capabilities in developing economies.<sup>8</sup> Existing IP policies tend to be fragmented and reactive, rather than proactive and comprehensive, which undermines the effectiveness of IP law in protecting rights holders and promoting innovation.<sup>9</sup>

Additionally, while several reforms have been proposed or implemented in recent years, the overall framework still lacks a systematic and structured approach to IP supervision.<sup>10</sup> Gaps in policy and legal enforcement mechanisms raise concerns about how IP laws can evolve to accommodate modern technological advances and cross-border transactions.<sup>11</sup>

This article seeks to critically evaluate the current state of intellectual property (IP) law supervision and policy, focusing on the effectiveness of existing frameworks in protecting intellectual property rights. It explores the practical and regulatory challenges faced by enforcement agencies, policymakers, and stakeholders in ensuring robust IP protection, particularly in light of emerging technologies and global trade dynamics. By identifying the deficiencies within the current system, the study provides insights into the areas requiring reform or enhancement.

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- <sup>1</sup> Frederick M. Abbott "World Intellectual Property Organization: Treaty on Intellectual Property in Respect of Integrated Circuits," *International Legal Materials* 28, no. 6 (1989): 1477-1491. <https://doi.org/10.1017/s002078290001723x>
  - <sup>2</sup> David Poticha and Mark W. Duncan, "Intellectual property – The Foundation of Innovation: A scientist's guide to intellectual property," *Journal of Mass Spectrometry* 54, no. 3 (2019): 288-300. <https://doi.org/10.1002/jms.4331>
  - <sup>3</sup> Asif Khan, "The Intersection Of Artificial Intelligence And International Trade Laws: Challenges And Opportunities," *IUMLJ* 32 (2024): 103. <https://doi.org/10.31436/iiumlj.v32i1.912>; Zarrin et.al, "Blockchain for decentralization of internet: prospects, trends, and challenges," *Cluster Computing* 24, no. 4 (2021): 2841-2866. <https://doi.org/10.1007/s10586-021-03301-8>;
  - <sup>4</sup> Kristin Brandl, Izzet Darendeli, and Ram Mudambi, "Foreign actors and intellectual property protection regulations in developing countries," *Journal of International Business Studies* 50 (2019): 826-846. <https://doi.org/10.1057/s41267-018-0172-6>
  - <sup>5</sup> Olubiyi et.al, "Contemporary challenges to intellectual property rights in developing countries: looking beyond the laws (Nigeria as a case study)," *IIC-International Review of Intellectual Property and Competition Law* 53, no. 1 (2022): 5-30. <https://doi.org/10.1007/s40319-021-01138-7>
  - <sup>6</sup> Paramita Choudhury and Seema Yadav, "Online Piracy and Intellectual Property Rights: A Synthesis." *Issue 1 Int'l JI Mgmt. & Human.* 5 (2022): 2284. <https://doi.org/10.10000/IJLMH.112779>
  - <sup>7</sup> Wachiraporn Pongjinda, Shubham Pathak, and Ivan Bimbilovski, "Legal Protection against Patent and Intellectual Property Rights Violations Amidst COVID-19," *Emerging Science Journal* 7 (2023): 225-237. <https://doi.org/10.28991/esj-2023-sper-016>
  - <sup>8</sup> Heather Berry, "Managing valuable knowledge in weak IP protection countries," *Journal of International Business Studies* 48, Springer, (20 March 2017), 787-807. <https://doi.org/10.1057/s41267-017-0072-1>
  - <sup>9</sup> Shabib-Ahmed Shaikha and Tarun Kumar Singhal, "Study on the various intellectual property management strategies used and implemented by ICT firms for business intelligence," *Journal of Intelligence Studies in Business* 9, no. 2 (2019). <https://doi.org/10.37380/jisib.v9i2.467>
  - <sup>10</sup> Zhen Yang et.al, "A systematic literature review of methods and datasets for anomaly-based network intrusion detection," *Computers & Security* 116 (2022): 102675. <https://doi.org/10.1016/j.cose.2022.102675>
  - <sup>11</sup> Anusha Unnikrishnan, "Analyzing the impact of emerging technologies on intellectual property rights (IPR): a comprehensive study on the challenges and opportunities in the digital age," *Law & World* 29 (2024): 66. <https://doi.org/10.36475/10.1.6>

Furthermore, the article aims to propose actionable recommendations for creating a more systematic, structured, and comprehensive IP law framework. These recommendations are designed to strengthen enforcement mechanisms, enhance policy coherence, and address the evolving demands of innovation-driven economies. By addressing these issues, the study contributes to the ongoing discourse on how to better safeguard intellectual property rights in a manner that promotes creativity, fairness, and economic development.

## II. Research Problems

Intellectual property (IP) law, a cornerstone for fostering innovation, creativity, and economic growth, faces mounting challenges in the contemporary era. The evolution of technology, globalization, and the prevalence of digital platforms have exposed significant deficiencies in the existing frameworks of IP supervision and enforcement. Among the critical problems are weak enforcement mechanisms. IP laws often suffer from inconsistent application, particularly in jurisdictions with limited resources or underdeveloped legal systems. This inconsistency undermines the protection of IP rights, especially in cross-border contexts.

Another problem is a fragmented legal framework; law is an umbrella of diverse categories of laws, which cannot be unified due to their different nature and scope. In Indonesia, for instance, an enforceable intellectual property (IP) law should provide a comprehensive yet distinct framework for each IP category – patents, copyrights, trademarks, and trade secrets – reflecting their unique characteristics. At the same time, it should ensure streamlined enforcement mechanisms to address overlaps, reduce inefficiencies, and protect rights holders. Harmonizing procedural aspects, such as dispute resolution, enforcement authority coordination, and public awareness campaigns, could strengthen the overall IP system without compromising the integrity of individual legal provisions.

Furthermore, digital challenges also pose as a challenge to the IP law enforcement. The rise of online piracy, counterfeit goods, and unauthorized digital content sharing complicates IP law enforcement. Existing mechanisms struggle to keep pace with these rapidly evolving threats, especially in the global digital space. Another deficiency in the IP law enforcement lies in the stakeholder awareness gaps. A lack of education and awareness among creators, businesses, and consumers regarding IP rights contributes to underutilization and misuse of these protections. This issue is particularly pronounced in developing economies. Last but not least is the issue of international cooperation deficiencies. The jurisdiction-specific nature of IP laws creates obstacles in harmonizing enforcement across borders. Global agreements like TRIPS offer a foundation, yet disparities in enforcement standards hinder effective international collaboration.

## III. Research Methods

The research utilizes a normative legal approach,<sup>12</sup> focusing on a critical analysis of statutory provisions,<sup>13</sup> case law,<sup>14</sup> and policy documents related to intellectual property rights and their enforcement.<sup>15</sup> Key legal sources for this research include international, regional, and national frameworks governing intellectual property (IP) rights. At the global level, The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)<sup>16</sup> provides a baseline for IP protection standards and enforcement mechanisms among World Trade

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<sup>12</sup> Julia Bauer, Nikolaus Franke, and Philipp Tuertscher, "Intellectual property norms in online communities: How user-organized intellectual property regulation supports innovation," *Information Systems Research* 27, no. 4 (2016): 724-750. <https://doi.org/10.1287/isre.2016.0649>

<sup>13</sup> Paul Roberts and Adrian Zuckerman, *Roberts & Zuckerman's Criminal Evidence* (Oxford University Press, 2022). <https://doi.org/10.1093/oso/9780198824480.001.0001>

<sup>14</sup> James A. Brander, Victor Cui, and Ilan Vertinsky, "China and intellectual property rights: A challenge to the rule of law," *Journal of International Business Studies* 48 (2017): 908-921. <https://doi.org/10.1057/s41267-017-0087-7>

<sup>15</sup> Bently, Lionel, Brad Sherman, Dev Gangjee, Phillip Johnson, *Intellectual property law* (Oxford university press, 2022). <https://doi.org/10.1093/he/9780198869917.001.0001>

<sup>16</sup> Carlos María Correa, *Trade related aspects of intellectual property rights: a commentary on the TRIPS agreement* (Oxford University Press, 2020). <https://doi.org/10.1093/law/9780198707219.005.0001>

Organization (WTO) members. Similarly, The World Intellectual Property Organization (WIPO)<sup>17</sup> standards and guidelines offer additional frameworks for harmonizing international IP policies.

At the national level, Indonesia's legal framework plays a crucial role, including The Indonesian Copyright Law (Law No. 28 of 2014),<sup>18</sup> which governs the protection of literary, artistic, and other creative works, and The Indonesian Trademark Law (Law No. 20 of 2016),<sup>19</sup> which regulates the use, registration, and protection of trademarks.

Regionally, agreements such as the ASEAN IP Rights Framework aim to foster cooperation and consistency in IP enforcement among ASEAN member states.<sup>20</sup> These combined sources provide the legal foundation for analyzing IP issues and enforcement challenges in Indonesia.

This study employs a mixed-methods approach, combining doctrinal research with an in-depth analysis of international and domestic intellectual property (IP) case law,<sup>21</sup> especially Indonesia. Doctrinal research focuses on examining the current legal framework, statutory provisions, and judicial interpretations to assess how effectively IP laws are designed and enforced in practice. By analysing case law, the study identifies patterns of enforcement gaps, challenges faced by stakeholders, and inconsistencies in judicial outcomes. This approach provides a robust foundation for understanding the practical limitations of the existing IP legal system in Indonesia.

To provide a broader perspective, the study incorporates comparative analyses<sup>22</sup> with established IP regimes in countries such as the United States, European Union, and Japan. These jurisdictions are known for their advanced IP systems and serve as benchmarks for best practices in IP law supervision and enforcement. By contrasting their policies, institutional frameworks, and enforcement mechanisms with those of the target jurisdiction, the study identifies key areas for improvement. This combination of doctrinal research and comparative analysis ensures a comprehensive evaluation, offering actionable recommendations for bridging policy gaps and enhancing the effectiveness of IP law enforcement.

#### IV. Result And Discussion

The study reveals that inadequate enforcement mechanisms significantly undermine the effectiveness of intellectual property (IP) laws, particularly in jurisdictions with limited resources or underdeveloped legal systems. One of the primary challenges identified is the lack of coordination among government agencies, judicial bodies, and international IP organizations.<sup>23</sup> This fragmentation often results in inconsistent enforcement, where IP holders struggle to protect their rights across multiple jurisdictions. Furthermore, many developing countries face systemic issues such as poorly trained judicial staff, limited technological infrastructure,<sup>24</sup> and insufficient financial resources,<sup>25</sup> making it difficult to combat IP violations effectively. These gaps not only

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<sup>17</sup> Carolyn Deere Birkbeck, *The world intellectual property organization (WIPO): A reference guide* (Edward Elgar Publishing, 2016). <https://doi.org/10.4337/9781785364785.00019>

<sup>18</sup> Hari Sutra Disemadi, "Contextualization of Legal Protection of Intellectual Property in Micro Small and Medium Enterprises in Indonesia," *Law Reform* 18, no. 1 (2022): 89-110. <https://doi.org/10.14710/lr.v18i1.42568>

<sup>19</sup> Henny Marlyna and Agus Sardjono, "Does the Trademark Protection Regulation Protect Consumers against Counterfeit Products? Analyzing the Theories of Trademark and Indonesian Trademark Law," *Pertanika Journal of Social Sciences & Humanities* 27, no. 2 (2019).

<sup>20</sup> Deborah Gleeson, Joel Lexchin, Ruth Lopert, and Burcu Kilic, "The trans Pacific partnership agreement, intellectual property and medicines: differential outcomes for developed and developing countries." *Global Social Policy* 18, no. 1 (2018): 7-27. <https://doi.org/10.1177/1468018117734153>

<sup>21</sup> Frans L. Leeuw and Hans Schmeets, *Empirical legal research: A guidance book for lawyers, legislators and regulators* (Edward Elgar Publishing, 2016). <https://doi.org/10.4337/9781782549413>

<sup>22</sup> *Ibid.*

<sup>23</sup> Susan K. Self, "The quest for global governance in intellectual property and public health: Structural, discursive, and institutional dimensions," in *Global Health* (Routledge, 2017): 331-367. <https://doi.org/10.4324/9781315254227-26>

<sup>24</sup> Laura Diaz Anadon et al., "Making technological innovation work for sustainable development," *Proceedings of the National Academy of Sciences* 113, no. 35 (2016): 9682-9690. <https://doi.org/10.1073/pnas.1525004113>

<sup>25</sup> Tatiana Nevzorova and Vladimir Kutcherov, "Barriers to the wider implementation of biogas as a source of energy: A state-of-the-art review," *Energy Strategy Reviews* 26 (2019): 100414. <https://doi.org/10.1073/pnas.1525004113>

hinder local innovation but also weaken international collaboration in addressing cross-border IP infringements, such as piracy and counterfeiting.

**Table 1.** Some Findings of Research

Finding	Description	Key Issues
<b>Inadequate Enforcement Mechanisms</b>	Enforcement is inconsistent, lacking coordination between government bodies, courts, and international organizations.	Weak judicial systems, lack of resources, and poor coordination among enforcement agencies.
<b>Fragmented Legal Frameworks</b>	IP laws are fragmented, creating inefficiencies in protecting rights and enforcing actions.	Lack of a unified approach to managing various IP categories (e.g., patents, trademarks, copyrights).
<b>Digital Challenges</b>	Digital content proliferation has increased online piracy, unauthorized sharing, and counterfeit goods, complicating cross-border IP protection.	Difficulty monitoring and enforcing IP rights in the digital space; challenges posed by global online platforms.
<b>Lack of Stakeholder Awareness</b>	Limited understanding of IP rights among businesses, creators, and consumers leads to misuse and underutilization of protections.	Insufficient education and awareness programs, lack of appreciation for the economic and social value of IP rights.
<b>International Cooperation Gaps</b>	Jurisdiction-specific IP laws hinder cross-border enforcement, despite global agreements like TRIPS.	Inconsistent enforcement standards across countries; limited collaboration among nations in implementing uniform protections and combating IP violations.

Sources: Author's analysis

Another key finding is the disparity between legal frameworks and their practical implementation.<sup>26</sup> While many countries have ratified international treaties like the TRIPS Agreement, the translation of these obligations into domestic law often falls short.<sup>27</sup> For instance, delays in legal proceedings, low penalties for offenders, and inadequate remedies for IP holders create an environment where infringers operate with minimal deterrence.<sup>28</sup> Comparative analyses with jurisdictions like the United States, European Union, and Japan highlight the importance of streamlined enforcement procedures and robust institutional support, which are largely absent in weaker systems.<sup>29</sup> These findings underscore the urgent need for comprehensive reforms, emphasizing capacity building, international cooperation, and stronger legal provisions to bridge the gap between law and enforcement in IP protection.

The fragmentation of legal frameworks governing intellectual property (IP) rights is a significant issue that hinders the effective protection and enforcement of these rights. Different laws address various aspects of IP, such as patents, copyrights, trademarks, and trade secrets,

<sup>26</sup> Jay Dratler Jr and Stephen M. McJohn, *Intellectual property law: Commercial, creative and industrial property* (Law Journal Press, 2024) available at <https://store.lexisnexis.com/en-us/products/intellectual-property-law-commercial-creative-and-industrial-property-sku-us-alm-15710.html>

<sup>27</sup> K. Yu. Peter, "The objectives and principles of the TRIPS agreement," in *The Regulation of Services and Intellectual Property* (Routledge, 2017): 255-322. <https://doi.org/10.4324/9781315085463-7>

<sup>28</sup> Jane Helena Susan Foulser McFarlane, *Copyright Damages Need to Have a Sufficient Punitive Element to Successfully Deter Infringement* (United Kingdom: University of Exeter, 2023). available at <https://core.ac.uk/download/578731154.pdf>

<sup>29</sup> Mireya Solís, *Dilemmas of a trading nation: Japan and the United States in the evolving Asia-Pacific order* (Brookings Institution Press, 2017). <https://www.jstor.org/stable/10.7864/j.ctt1hfr247>

often without sufficient integration or coordination.<sup>30</sup> This fragmented approach creates inefficiencies, leaving gaps in enforcement mechanisms and making it difficult for stakeholders to navigate the system. A more unified legal framework that consolidates these diverse elements is essential for ensuring consistency in protecting IP rights and facilitating streamlined enforcement processes.<sup>31</sup>

Digital challenges further exacerbate the complexities of IP law enforcement. The rapid proliferation of digital content has introduced issues such as online piracy, unauthorized sharing, and the widespread distribution of counterfeit goods. These problems transcend national borders, complicating the monitoring and protection of intellectual property in an increasingly interconnected world. Despite technological advancements, the dynamic nature of the digital space often outpaces the capacity of existing legal frameworks, necessitating robust international strategies and adaptable policies to address these emerging threats effectively.<sup>32</sup>

A critical factor contributing to IP challenges is the lack of awareness among stakeholders, including businesses, creators, and consumers.<sup>33</sup> Many individuals and organizations do not fully understand the scope and importance of IP rights, leading to their underutilization or misuse.<sup>34</sup> For example, small businesses may fail to protect their innovations due to ignorance of patenting processes, while consumers might unknowingly engage in activities that violate copyright laws.<sup>35</sup> Comprehensive education and outreach programs are needed to raise awareness, promote the value of IP, and ensure that stakeholders can effectively utilize existing protections.

International cooperation gaps pose a major obstacle to global IP enforcement.<sup>36</sup> While agreements like the Trade-Related Aspects of Intellectual Property Rights (TRIPS) provide a foundation for standardizing protections, disparities in enforcement standards across jurisdictions create significant barriers.<sup>37</sup> These inconsistencies weaken efforts to combat IP violations, particularly in cross-border cases. Strengthened international collaboration, uniform enforcement practices, and enhanced mechanisms for addressing cross-border IP issues are vital to bridging these gaps and fostering a more cohesive global IP system.

Furthermore, this study faces several limitations that impact its scope and the conclusions drawn. A significant challenge is the lack of comprehensive and up-to-date empirical data on the real-world impact of intellectual property (IP) enforcement policies. Without such data, it becomes difficult to fully evaluate the effectiveness of current laws and identify the specific areas that require improvement. The absence of reliable metrics limits the ability to draw robust, evidence-based conclusions about the state of IP enforcement globally.<sup>38</sup>

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<sup>30</sup> Jianfu Chen, "Intellectual property law," *Chinese Law: context and transformation* (Brill Nijhoff, 2016) 762-815. [https://doi.org/10.1163/9789004228894\\_019](https://doi.org/10.1163/9789004228894_019)

<sup>31</sup> Shishir Kumar Shandilya, Agni Datta, Yash Kartik & Atulya Nagar, "Navigating the Regulatory Landscape," in *Digital Resilience: Navigating Disruption and Safeguarding Data Privacy* (Cham: Springer Nature Switzerland, 2024) 127-240. [https://doi.org/10.1007/978-3-031-53290-0\\_3](https://doi.org/10.1007/978-3-031-53290-0_3)

<sup>32</sup> Jay P. Kennedy, "Counterfeit products online," in *The Palgrave handbook of international cybercrime and cyberdeviance* (Springer, 2020): 1001-1024. [https://doi.org/10.1007/978-3-319-78440-3\\_46](https://doi.org/10.1007/978-3-319-78440-3_46)

<sup>33</sup> Lyytinen Lescauwat et al., "Adaptive legal frameworks and economic dynamics in emerging technologies: Navigating the intersection for responsible innovation," *Law and Economics* 16, no. 3 (2022): 202-220. <https://doi.org/10.35335/laweco.v16i3.61>

<sup>34</sup> Xu Sun, et al., "Understanding attitudes towards intellectual property from the perspective of design professionals," *Electronic Commerce Research* 21 (2021): 521-543. <https://doi.org/10.1007/s10660-019-09378-z>

<sup>35</sup> Karen Walsh, et al., "Intellectual property rights and access in crisis," *IIC-International Review of Intellectual Property and Competition Law* 52 (2021): 379-416. <https://doi.org/10.1007/s40319-021-01041-1>

<sup>36</sup> Russell L. Parr, *Intellectual property: valuation, exploitation, and infringement damages* (John Wiley & Sons, 2018) available at <https://tind.wipo.int/record/45451>

<sup>37</sup> Wenting Cheng, "China engages with the global intellectual property governance: The recent trend," *The Journal of World Intellectual Property* 22, no. 3-4 (2019): 146-161. <https://doi.org/10.1111/jwip.12122>

<sup>38</sup> Alexandra George, "Transcending territoriality: International cooperation and harmonization in intellectual property enforcement and dispute resolution," *Tsinghua China L. Rev.* 10 (2017): 225. Available at <https://www.tsinghuachinalawreview.law.tsinghua.edu.cn/issues/info/10217>

Another constraint arises from jurisdictional variability in IP laws and enforcement mechanisms.<sup>39</sup> IP frameworks differ significantly across countries,<sup>40</sup> with developed nations often having more established systems than emerging economies where enforcement is still evolving.<sup>41</sup> These disparities mean that findings from one jurisdiction cannot always be generalized or applied to others. For policymakers, this variability creates challenges in formulating strategies that address both local needs and global standards, especially in a rapidly globalizing economy.

The rapid pace of technological change adds further complexity to IP law enforcement.<sup>42</sup> New technologies, digital platforms, and innovations frequently outpace the development and implementation of relevant legal frameworks. This dynamic environment makes it difficult for policymakers to create laws that remain effective and adaptable over time.<sup>43</sup> For instance, the rise of blockchain technology,<sup>44</sup> artificial intelligence,<sup>45</sup> and decentralized platforms<sup>46</sup> presents novel IP challenges that existing laws may not adequately address.

The originality and value of this study lie in its comprehensive critique of IP law supervision and policy. Unlike prior research that often focuses on isolated aspects of IP law, this work offers a holistic examination of the system as a whole. It connects disparate elements of IP enforcement,<sup>47</sup> highlighting how gaps in one area affect the overall effectiveness of the framework. By doing so, it sheds light on systemic challenges and provides actionable recommendations for improving coordination and effectiveness in IP protection.

The study's findings hold particular significance for policymakers, legal practitioners, and international organizations working to enhance the global IP system. It emphasizes the importance of adapting legal frameworks to the realities of a digital age, fostering better collaboration between stakeholders, and ensuring that IP laws promote innovation while addressing emerging challenges. This research offers a valuable foundation for future studies and practical reforms aimed at strengthening the global intellectual property landscape.

## V. Conclusion

The study underscores the pressing challenges in intellectual property (IP) enforcement, including fragmented legal frameworks, inadequate implementation of international treaties, and emerging digital threats. Despite advancements in IP law, significant gaps persist, particularly in translating global agreements like TRIPS into robust domestic enforcement mechanisms. These shortcomings are exacerbated by jurisdictional variability, limited stakeholder awareness, and rapid technological evolution, which outpace current legal frameworks. The findings highlight the critical need for a cohesive approach to strengthen IP protection, focusing on capacity building, streamlined enforcement processes, and enhanced international collaboration.

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<sup>39</sup> Pengfei Cheng and Yuhao Wang, "Impact of intellectual property protection on enterprise supply chain resilience: empirical evidence from China's intellectual property pilot and demonstration city policy," *Humanities and Social Sciences Communications* 11, no. 1 (2024): 1-18. <https://doi.org/10.1057/s41599-024-04171-2>

<sup>40</sup> Jeremy De Beer, "Evidence-based intellectual property policymaking: an integrated review of methods and conclusions." *The Journal of World Intellectual Property* 19, no. 5-6 (2016): 150-177. <https://doi.org/10.1111/jwip.12069>

<sup>41</sup> Vimala Venugopal Muthuswamy and V. Sureshkumar, "Navigating Jurisdictional Divergence: Assessing Multidimensional Factors Affecting Enforcement and Compensation in Cross-Border Intellectual Property Violations," *International Journal of Criminal Justice Sciences* 18, no. 2 (2023): 232-258. Available at <https://ijcs.com/menu-script/index.php/ijcs/article/view/724>

<sup>42</sup> *Ibid.*

<sup>43</sup> Klaus E. Meyer and Mike W. Peng, "Theoretical foundations of emerging economy business research," *Journal of International Business Studies* 47 (2016): 3-22. <https://doi.org/10.1057/jibs.2015.34>

<sup>44</sup> Daryl Lim, "AI & IP: innovation & creativity in an age of accelerated change," *Akron L. Rev.* 52 (2018): 813. Available at <https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=3369200>

<sup>45</sup> *Ibid.*

<sup>46</sup> Göneç Gürkaynak et.al, "Intellectual property law and practice in the blockchain realm," *Computer law & security review* 34, no. 4 (2018): 847-862. <https://doi.org/10.1016/j.clsr.2018.05.027>

<sup>47</sup> Leonidas Aristodemou and Frank Tietze, "The state-of-the-art on Intellectual Property Analytics (IPA): A literature review on artificial intelligence, machine learning and deep learning methods for analysing intellectual property (IP) data," *World Patent Information* 55 (2018): 37-51. <https://doi.org/10.1016/j.wpi.2018.07.002>

To address these challenges, policymakers should prioritize creating unified and integrated IP legal frameworks that consolidate various IP rights under a single, cohesive system. Enhancing public awareness through education and outreach campaigns is essential to empower stakeholders and promote the effective use of IP protections. Additionally, governments and international organizations must foster greater cooperation to standardize enforcement practices, address cross-border IP issues, and develop adaptable policies that can respond to technological advancements. By implementing these strategies, the global IP system can be strengthened to better support innovation and safeguard intellectual property rights.

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