

Legal Protection of Intellectual Property in the Digital Era in Indonesia

Alfi Syahrin Barmansyah¹⁾, Chyndhyane Salsabila Indrawan²⁾, Mutiara Komalasari³⁾ & Muhamad Rifqy Fajri⁴⁾

¹⁾Master of Notarial Law, Universitas Pancasila, Indonesia, E-mail: alfisyahrinb4@gmail.com

²⁾Master of Notarial Law, Universitas Pancasila, Indonesia, E-mail: chynsalsalsal@gmail.com

³⁾Master of Notarial Law, Universitas Pancasila, Indonesia, E-mail: mutiarakomalasari07@gmail.com

⁴⁾Master of Notarial Law, Universitas Pancasila, Indonesia, E-mail: rifqyfajri010@gmail.com

Abstract. *The advancement of digital technology has fundamentally transformed the processes of creating, distributing, and using intellectual works. While digitalization enhances accessibility and efficiency, it also significantly increases the risk of Intellectual Property Rights (IPR) infringements that occur on a large scale, at high speed, and across national borders. In Indonesia, these developments present serious challenges to the effectiveness of IPR legal protection, particularly in addressing violations within the rapidly evolving digital environment. This research seeks to assess the capacity of Indonesia's IPR protection policies to respond to the demands of the digital era and to propose legal and policy recommendations aimed at strengthening the national IPR protection framework. The study employs normative legal research methods, utilizing statutory and conceptual approaches through a literature review of IPR legislation, legal doctrines, and academic writings related to digital technology. The findings reveal that although Indonesia has established a relatively comprehensive IPR regulatory system and has aligned it with international standards, existing regulations have not yet fully adapted to the unique nature of digital-era infringements. Persistent challenges remain in areas such as law enforcement effectiveness, the handling of electronic evidence, institutional coordination, and the regulation of cross-border IPR violations. The study concludes that enhancing IPR protection in Indonesia requires regulatory reforms that are responsive to technological advancements, improved capacity-building for law enforcement authorities, and increased public awareness of IPR law. Academically, this research contributes to the development of legal scholarship and provides valuable input for policymakers in strengthening IPR protection to ensure legal certainty and enhance national competitiveness.*

Keywords: *Digital; Intellectual; Property; Protection.*

1. INTRODUCTION

The development of digital technology has brought fundamental changes to various aspects of life, including the economic sector and the creative industry. Digitalization

enables the creation, distribution, and utilization of intellectual works to occur rapidly and across borders, thereby opening significant opportunities for the growth of innovation- and creativity-based economies (Gede et al., 2024). On the other hand, advancements in digital technology also pose serious challenges to the intellectual property rights (IPR) protection system, particularly in the context of law enforcement.

Advances in information technology have facilitated human activities across various sectors, such as communication, business, entertainment, and education (Saputra et al., 2023). Digital platforms and social media provide broad access for the public to consume and distribute intellectual works. However, this convenience has also led to an increased risk of IPR violations, as digital works can be easily copied, modified, and disseminated without the authorization of rights holders.

Intellectual property rights, which include copyrights, patents, and trademarks, constitute legal instruments designed to protect the economic and moral interests of creators and rights holders (Hutagalung, 2022). Effective IPR protection not only ensures legal certainty but also serves as a crucial factor in promoting innovation, investment, and the growth of creative industries. Therefore, the legal system is required to adapt to the dynamic developments of digital technology.

In practice, IPR protection in the digital era continues to face various challenges, such as digital piracy, illegal use of content, and patent infringement (Hikmah et al., 2023). These violations not only cause economic losses to creators but also have systemic impacts by weakening the national climate of creativity and innovation. If left unaddressed, the digital ecosystem may become characterized by harmful practices that undermine national competitiveness (Marali & Nugroho Putri, 2022).

Current IPR policies and regulations in Indonesia are considered insufficiently responsive to the challenges of the digital era. Several statutory provisions remain conventional in nature and have yet to accommodate the rapidly evolving characteristics of digital technology. The widespread occurrence of piracy through the internet and social media, coupled with weak law enforcement, further exacerbates the problems of IPR protection in Indonesia (Salsadila, 2023).

The mismatch between existing legal norms and the realities of the digital society has rendered many IPR violations difficult to address effectively. Certain regulations have not yet been able to respond adequately to issues arising from the use of digital platforms, online distribution systems, and internet-based business models that increasingly dominate economic activities (Muhamad, 2020). This condition reflects a gap between law in the books (*das sollen*) and law in action (*das sein*).

The issue of IPR protection is further complicated by the high level of digital piracy in Indonesia. Data from the Indonesian Internet Service Providers Association (APJII) indicate that approximately 70% of internet users in Indonesia access illegal content, such as pirated music, films, and software (Ferrydjon, 2024). This phenomenon results in significant economic losses, reduces the income of creative industry actors, and hampers the growth and competitiveness of national industries (Cantika Aulia et al., 2023).

Based on these conditions, a comprehensive legal study is required to assess the effectiveness of IPR protection policies in Indonesia in addressing digital challenges. This research employs a normative legal approach by examining statutory regulations, legal

doctrines, and legal principles governing IPR, as well as an empirical approach to analyze the implementation and enforcement of IPR laws in practice.

The normative approach is used to analyze the compatibility of IPR regulations with developments in digital technology, while the empirical approach is employed to identify obstacles and challenges faced in the practical application of IPR protection. By combining these two approaches, this research is expected to provide a comprehensive overview of the state of IPR protection in Indonesia.

This study aims to evaluate the extent to which IPR protection policies in Indonesia are capable of addressing the challenges of the digital era and to formulate relevant legal and policy recommendations. The findings are expected to contribute academically to the development of legal scholarship and to serve as a consideration for policymakers in strengthening the IPR protection system to support innovation and national competitiveness.

2. RESEARCH METHODS

This research employs a normative (juridical-normative) legal research method that emphasizes the analysis of prevailing legal norms. This approach is used to examine statutory regulations, legal principles, as well as doctrines and theories related to the protection of Intellectual Property Rights (IPR) in the digital era. The study focuses on IPR regulation within both national and international legal systems to assess the degree to which existing legal norms correspond with technological developments and contemporary demands for effective legal protection.

Normative legal research in this study relies on three categories of legal materials: primary, secondary, and tertiary sources. Primary legal materials include legislation governing IPR, such as laws on copyright, patents, and trademarks, along with relevant international legal instruments, including the TRIPS Agreement and other international conventions related to IPR. Secondary legal materials consist of legal textbooks, academic journal articles, prior research, and expert opinions addressing issues of IPR protection and digital law. Tertiary legal materials encompass legal dictionaries and encyclopedias used to clarify legal terminology and concepts.

The collection of legal materials is conducted through library research by identifying, examining, and reviewing relevant legal sources. All gathered materials are then subjected to qualitative analysis using a descriptive-analytical method. This process involves describing applicable legal provisions, interpreting legal norms, and evaluating their consistency and relevance in addressing IPR protection challenges in the digital era. The results of this analysis serve as the foundation for drawing conclusions and formulating prescriptive legal recommendations aimed at strengthening IPR protection in Indonesia.

3. RESULTS AND DISCUSSION

3.1 Regulatory Framework for the Protection of Intellectual Property Rights in the Digital Era in Indonesia

Indonesia's approach to Intellectual Property Rights (IPR) protection is largely determined by its status within the World Trade Organization (WTO), particularly through adherence to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Through this agreement, WTO members are required to incorporate minimum levels of legal safeguards for a wide range of intellectual assets, including creative works and related rights, distinctive signs, origin-based product identifiers, technological inventions, design innovations, integrated circuit layouts, confidential business information, and regulatory measures addressing restrictive licensing practices (Saputra, 2025).

In relation to copyright protection, TRIPS obliges member states to safeguard creative works in the fields of science, literature, and the arts, including works that are created, distributed, and consumed in digital formats via electronic networks (Inayah & Sulistiyono, 2025). This obligation extends to neighbouring rights, covering the legal interests of performers, phonogram producers, and broadcasting institutions, whose roles have become increasingly prominent within digitally networked environments (Natanael, 2023).

The protection of trademarks and geographical indications also assumes heightened importance in the context of electronic commerce. Trademarks function as legal identifiers that maintain consumer trust and distinguish goods or services in online markets, while geographical indications provide protection for products whose specific qualities and reputations are directly linked to their place of origin (Amelia et al., 2023). Furthermore, legal safeguards for industrial designs and patents contribute significantly to the promotion of innovation and the maintenance of fair competition, particularly in technology-driven industries (Amalia et al., 2024).

From a theoretical standpoint, Intellectual Property Rights are commonly divided into two core categories: industrial property rights and copyright along with related rights. Industrial property rights are primarily associated with industrial and commercial activities, whereas copyright has traditionally emphasized moral and creative interests. However, within the digital economy, copyrighted works increasingly function as economic commodities subject to commercialization and market exchange (Nainggolan, 2021).

At the national level, Indonesia has established an IPR regulatory framework that largely reflects the standards mandated by TRIPS while incorporating domestic legal and technological developments. This framework is supported by a combination of national legislation and international legal commitments, which collectively provide the legal basis for IPR protection in Indonesia and ensure compliance with international trade-related intellectual property norms.

1. Paris Convention for the Protection of Industrial Property, which regulates the protection of industrial property rights, including patents and trademarks.
2. Berne Convention for the Protection of Literary and Artistic Works, which governs the protection of copyright and literary and artistic works.
3. Convention Establishing the World Intellectual Property Organization (WIPO), which serves as the basis for the establishment of an international organization coordinating the protection of intellectual property rights.
4. Patent Cooperation Treaty (PCT), which regulates the mechanism for international patent applications.
5. Trademark Law Treaty, which simplifies and harmonizes trademark registration procedures.
6. WIPO Copyright Treaty, which specifically regulates the protection of copyright in the digital environment and internet-based networks.

Meanwhile, the national legal basis for the protection of Intellectual Property Rights (IPR) in Indonesia includes:

1. Law No. 28 of 2014 on Copyright, which regulates the protection of copyrighted works, including digital works and their distribution through electronic media.
2. Law No. 13 of 2016 on Patents, which grants exclusive rights over technological inventions, including inventions in the field of information technology and digital innovation.
3. Law No. 20 of 2016 on Trademarks and Geographical Indications, which protects trademarks and geographical indications in commercial activities, including electronic commerce.
4. Law No. 30 of 2000 on Trade Secrets, which protects confidential business information that has economic value and is relevant in digital business competition.
5. Law No. 31 of 2000 on Industrial Designs, which provides protection for product designs with aesthetic value.
6. Law No. 32 of 2000 on Layout Designs of Integrated Circuits, which protects the physical layout designs of integrated circuits as essential components of digital technology.
7. Law No. 29 of 2000 on Plant Variety Protection, which provides intellectual property protection in the agricultural and biotechnology sectors.

In addition to specific intellectual property laws, the protection of intellectual property rights (IPR) in the digital era is also strengthened by supporting regulations, including:

1. Law No. 11 of 2008 on Electronic Information and Transactions, as amended by Law No. 19 of 2016, which regulates the use of information technology and provides a legal basis for addressing digital violations.
2. Government Regulations and Ministerial Regulations related to electronic systems and the digital economy, which play a role in supervising activities on digital platforms.
3. Competition law provisions, which regulate the control of unfair competition practices in intellectual property licensing agreements.

The existence of these various legal instruments indicates that, from a normative perspective, Indonesia has established a comprehensive legal framework for the protection of intellectual property rights in the digital era. However, the effectiveness of such protection is highly dependent on regulatory harmonization, consistency in law enforcement, and the adaptation of policies to the continuously evolving dynamics of digital technology.

3.2 The Implementation of Intellectual Property Rights Protection in Indonesia

The system of Intellectual Property Rights (IPR) protection recognizes two main mechanisms for acquiring legal rights: the constitutive registration model and the declarative usage-based model. The constitutive model, widely known as the first to file principle, establishes legal ownership only after an intellectual property application has been officially filed and granted. Under this system, the individual or entity that submits the earliest valid registration obtains exclusive legal protection over the intellectual property concerned (Ridla, 2019). This registration-based approach governs several forms

of intellectual property, including patents, trademarks, industrial designs, layout designs of integrated circuits, and plant variety rights.

Conversely, the first to use system recognizes legal rights based on the initial creation or utilization of an intellectual property. In the event of a legal dispute, the claimant must demonstrate that they were the earliest creator or user of the protected subject matter. This system governs copyright and trade secrets, where legal protection exists independently of formal registration (Asmara, Rahayu, & Bintang, 2019). Within this framework, registration primarily serves an evidentiary and administrative function, reinforcing legal certainty rather than constituting the source of the right itself (Paramisuari & Purwani, 2019).

In addition to registration models, the effectiveness of IPR protection depends on several fundamental components. The subject of protection refers to the legal holder of the intellectual property, which may be an individual or a legal entity (Prabandari, Hananto, Lestari, & Roisah, 2020). The object of protection includes all forms of intellectual property acknowledged by law, such as copyright, patents, trademarks, industrial designs, integrated circuit layout designs, trade secrets, and plant varieties. As a general rule, legal protection is granted upon registration and is evidenced by an official certificate, except in circumstances where statutory provisions explicitly provide otherwise.

The protection of intellectual property rights has different durations, namely:

1. Copyright protection is valid for the entire lifespan of the author and continues for seventy years after their death. Article 58 of the Copyright Law provides that this period is calculated from January 1 of the year following the creator's passing.
2. The duration of patent protection varies according to its type. A simple patent receives legal protection for ten years, as stipulated in Article 23 paragraph (1) of the Patent Law, calculated from the filing date. In contrast, a standard patent is protected for a longer term of twenty years pursuant to Article 22 paragraph (1) of the Patent Law, also commencing from the filing date.
3. Legal protection for trademarks is granted for an initial term of ten years and may be extended repeatedly for subsequent ten-year periods. This provision is set out in Article 35 of the Trademark and Geographical Indications Law, which establishes that trademark rights take effect from the filing date.
4. Industrial design rights are protected for a fixed period of ten years beginning on the date the application is filed, as regulated in Article 5 of the Industrial Design Law.
5. Due to their confidential character, trade secrets are not subject to a predetermined protection period. The Trade Secret Law provides that protection remains in force for as long as the information retains its secrecy.
6. Legal protection for layout designs of integrated circuits applies for ten years. Under Article 4 of the Layout-Design of Integrated Circuits Law, this period is calculated from either the date the design is first commercially exploited anywhere in the world or the filing date, whichever occurs earlier.
7. Plant variety protection is granted for a limited duration depending on the type of plant. Annual plant varieties are protected for twenty years, while perennial plant varieties receive protection for twenty-five years, calculated from the date the plant variety rights are granted, as provided in the Plant Variety Protection Law..

Intellectual Property Rights (IPR) can be transferred or assigned, either in whole or in part, through mechanisms such as inheritance, grants, wills, vesting in the state, or contractual agreements set forth in deed form. Generally, the transfer of IPR is undertaken for commercial purposes, namely to enable another party to utilize the intellectual property based on an agreement, thereby allowing the economic rights attached to the intellectual work to be exploited jointly.

The transfer of IPR cannot be carried out verbally and must be evidenced in writing, either through an authentic deed or a private deed. When a creator, inventor, or designer wishes to transfer intellectual property rights during their lifetime, such transfer may be effected through a grant or a will. The transfer of IPR in the form of permission to use is known as a license, and such a license is subject to mandatory registration.

Through licensing arrangements, creations or inventions can be disseminated and utilized more widely by the public, both domestically and internationally. Therefore, licenses must be registered with the Directorate General of Intellectual Property (DGIP).

Each statute and regulation related to intellectual property rights governs the transfer of IPR, with the arrangements stipulated as follows:

1. The assignment of copyright through inheritance, grants, or testamentary instruments must be evidenced in written form. Upon the death of the creator, copyright ownership passes to the lawful heirs, and the exercise of such rights must comply with applicable statutory provisions. In circumstances where no heirs or family members assert ownership within seventy years following the creator's death, the copyright is transferred to the state.
2. Patent ownership may be reassigned through inheritance, grants, wills, or other transfer mechanisms recognized by legislation. Any transfer of patent rights is required to be officially recorded and announced by submitting an application for registration to the Directorate General of Intellectual Property, together with the necessary written documentation.
3. Trademark rights may be conveyed through inheritance, grants, wills, or other legally permissible methods. Only trademarks that have been formally registered with the Directorate General of Intellectual Property are eligible for transfer. Such transfers may occur while a trademark application is pending and must be registered and entered into the General Trademark Register.
4. Rights relating to industrial designs may be transferred by inheritance, grants, wills, or other methods prescribed by law. Each transfer must be registered with the Directorate General of Intellectual Property by filing the required documents and paying the applicable transfer fees.
5. Ownership of layout designs of integrated circuits may be transferred through inheritance, grants, wills, or other lawful means. All transfers must be recorded with the Directorate General of Intellectual Property, supported by relevant documentation, and entered into the General Register of Layout Designs of Integrated Circuits.
6. Trade secret rights may be assigned through inheritance, grants, wills, or other mechanisms permitted under prevailing laws. Such assignments must be registered with the Directorate General of Intellectual Property to obtain legal recognition.
7. Rights related to plant variety protection may be transferred through inheritance, grants, wills, or other legally regulated methods. The transfer must be documented in a notarial deed and supported by documentation relating to the protected plant variety. In addition, the transfer must be recorded with the Plant Variety Protection

Office and registered in the General Register of Plant Variety Protection under the authority of the Ministry of Agriculture.

From the foregoing analysis, it may be concluded that the majority of legal provisions concerning the transfer of Intellectual Property Rights (IPR) recognize similar modes of transfer, including succession through inheritance, grants, and testamentary arrangements. Apart from these mechanisms, IPR may also be conveyed to other parties through a written contractual relationship known as a licensing agreement. The governance of intellectual property licensing in Indonesia is regulated under Government Regulation Number 36 of 2018 on the Recordation of Intellectual Property License Agreements (GR 36/2018). This regulation affirms the authority of IPR holders to grant permission to third parties to exploit their economic rights in accordance with applicable intellectual property legislation. A license agreement is legally binding upon the parties and remains in force for the duration stipulated therein, unless otherwise agreed.

In addition, GR 36/2018 imposes substantive restrictions on the content of licensing contracts. Article 6 expressly prohibits the inclusion of clauses that may: (a) undermine national economic stability or broader state interests; (b) impede Indonesia's ability to access, master, or develop technological capabilities; (c) give rise to unfair or anti-competitive business practices; and/or (d) contravene statutory provisions, religious principles, moral values, or public order.

Moreover, Article 10 of GR 36/2018 requires that licensing agreements be executed and formally recorded by submitting an application for recordation to the Minister through the Directorate General of Intellectual Property (DGIP). Such applications must be filed in the Indonesian language, either electronically or non-electronically, and supported by required documents, including a copy of the license agreement, an official extract of the relevant intellectual property certificate, a power of attorney where applicable, and proof of payment. Upon review, the Minister issues a certificate of license recordation, which must be announced within two months from the date of examination. The recorded license is entered into the General Register of Intellectual Property and published in the Official Intellectual Property Gazette. Failure to record and announce a licensing agreement renders it unenforceable against third parties, meaning it will not be legally recognized by the state, particularly in cases where a sub-licensing arrangement is subsequently established.

With regard to intellectual property infringement, several legal remedies are available. The settlement of IPR disputes may be pursued through two channels, namely litigation and non-litigation. Litigation refers to dispute resolution through the courts. In cases of IPR infringement, litigation may be pursued before the District Court and the Commercial Court, particularly for copyright-related disputes. Non-litigation refers to dispute resolution outside the courts through Alternative Dispute Resolution (ADR) mechanisms, also known as Alternative Dispute Settlement (ADS), which include arbitration, mediation, conciliation, and negotiation.

There are various remedial measures that may be undertaken depending on the dispute resolution mechanism chosen. If the dispute is resolved through civil proceedings, remedies may include compensation for damages, cessation of infringing acts, and seizure of infringing goods (Kurniawaty, 2018). If resolved through criminal proceedings, sanctions may include imprisonment and/or fines. Meanwhile, under administrative enforcement, remedial measures may include the suspension or revocation of business

licenses, payment of unpaid taxes or import duties, and the re-export of infringing goods (Ningsih & Maharani, 2019).

3.3 Challenges in Enforcing Intellectual Property Law in the Digital Era in Indonesia

The swift advancement of digital technology has significantly transformed the way intellectual works are created, distributed, and utilized. Through digitalization, copyrighted materials, technological innovations, and commercial identifiers can be reproduced, shared, and accessed with ease, transcending spatial and temporal boundaries. While these developments offer greater efficiency and convenience, they simultaneously create substantial challenges for the enforcement of Intellectual Property Rights (IPR), especially in responding to the diverse forms of infringement that occur in the digital environment. The following outlines the key challenges faced in enforcing IPR-related laws in Indonesia in the digital era:

1. **Low Public Awareness and Legal Compliance**
One of the main challenges in enforcing IPR law in the digital era is the low level of public legal awareness regarding the importance of IPR protection. Many digital technology users do not yet understand that copying, downloading, and distributing digital works without authorization constitute legal violations. This condition causes infringing practices, such as piracy and unauthorized use of content, to persist and remain difficult to control.
2. **Limited Registration of Intellectual Property Rights**
Many creators, inventors, and rights holders still do not formally register their works or innovations. As a result, legal protection for such works becomes weak, especially when disputes or violations occur in the digital space. The absence of strong proof of ownership complicates law enforcement processes and evidentiary requirements in court.
3. **Limited Capacity of Law Enforcement Authorities**
The enforcement of IPR in the digital space requires a deep understanding of information technology and electronic systems. In practice, law enforcement officials still face limitations in human resources with specialized competence in IPR and cybercrime. These limitations lead to slow case handling and reduced effectiveness of enforcement measures.
4. **Regulatory Weaknesses in Accommodating Digital Technological Developments**
Although Indonesia has enacted various laws and regulations in the field of IPR, some provisions have not fully addressed the challenges of violations in the digital space. Several regulations remain general in nature and do not specifically regulate enforcement mechanisms for digital platform-based infringements, including procedures for access termination or the swift handling of illegal content.
5. **Transnational Nature of IPR Violations**
IPR infringements in the digital era often involve perpetrators, servers, and platforms located outside Indonesia's jurisdiction. This condition complicates national law enforcement efforts, both in determining legal authority and in implementing sanctions. Limited international cooperation and differences in legal systems between countries constitute significant obstacles.
6. **Weak Coordination Among Relevant Institutions**

Enforcing IPR law in the digital space involves multiple institutions, such as the Directorate General of Intellectual Property, law enforcement agencies, and electronic system operators. A lack of coordination and synergy among these institutions results in suboptimal handling of infringements and creates overlapping authority in enforcement practices.

7. Legal Culture That Does Not Fully Support IPR Protection

A legal culture that does not yet fully respect the exclusive rights of IPR holders also affects the effectiveness of law enforcement. There remains a perception that digital works can be freely used without authorization, leading to infringements being viewed as commonplace. This situation weakens deterrent effects and contributes to recurring IPR violations.

8. Difficulties in Proving Digital IPR Infringements

IPR violations in the digital space are often difficult to prove due to their intangible nature and the ease with which digital evidence can be deleted or modified. The collection of electronic evidence requires specialized technical expertise and strict legal procedures to ensure evidentiary validity in court. This condition presents a distinct challenge in the enforcement process.

Based on the discussion of the various challenges in enforcing Intellectual Property Rights (IPR) law in the digital era in Indonesia, it can be concluded that IPR protection has not yet been implemented optimally. Low levels of public legal awareness, minimal IPR registration, limited capacity of law enforcement officials, and weak inter-institutional coordination are the main factors hindering effective law enforcement. In addition, statutory regulations that are not yet fully adaptive to the rapid development of digital technology and the complexity of online platform-based infringements further weaken legal certainty and protection for intellectual property rights holders.

Beyond normative and institutional factors, the characteristics of IPR violations in the digital space—such as their transnational nature, the difficulty of proof, and the influence of a legal culture that does not sufficiently respect the exclusive rights of IPR holders—further complicate enforcement efforts. These conditions indicate that challenges in enforcing IPR in the digital era are not only juridical in nature, but also structural and cultural. Therefore, a comprehensive legal approach is required through the strengthening of regulations, enhancement of law enforcement capacity, optimization of inter-agency coordination, and increased public legal awareness in order to establish an effective and sustainable system of intellectual property protection in the digital era.

3.4 Strategies for Strengthening Intellectual Property Protection from the Perspective of National Law

Enhancing the protection of Intellectual Property Rights (IPR) within the framework of national law has become an increasingly urgent priority, particularly in response to the swift advancement of digital technologies and the growing sophistication of infringements in cyberspace. The state bears a constitutional responsibility to ensure legal certainty and to safeguard the rights of its citizens, including exclusive rights arising from human creativity, innovation, and expression. Accordingly, efforts to reinforce IPR protection must be integrated into the national legal system and designed to remain responsive to technological progress as well as global developments. In this context, several strategies may be adopted:

1. Strengthening and harmonizing regulations in the field of IPR. The government needs to conduct a comprehensive evaluation of the laws and regulations governing IPR to ensure alignment with the development of digital technology. Adjustments to legal norms are necessary, particularly in regulating IPR violations in the digital space, implementing electronic-based law enforcement mechanisms, and defining the responsibilities of electronic system operators and digital platforms. Harmonization between IPR laws and information technology laws is also important to avoid overlaps and legal gaps.
2. Strengthening institutions and the capacity of law enforcement officers. IPR enforcement in the digital era requires a comprehensive understanding of information technology, digital forensics, and the characteristics of cyber violations. Therefore, enhancing the competence of law enforcement officers through education, specialized training, and the establishment of integrated IPR enforcement units is a strategic step. In addition, coordination between the Directorate General of Intellectual Property, the police, the prosecution, and judicial institutions needs to be strengthened so that IPR cases can be handled effectively and efficiently.
3. Optimizing IPR registration and administration systems. A simple, fast, and digital-based registration system can encourage the public to register their intellectual property rights. Accessible IPR registration will increase legal certainty for rights holders and facilitate evidence collection in case of violations. Furthermore, an integrated and open national IPR database can serve as a tool for transparency and violation prevention.
4. Increasing public awareness and legal culture. IPR protection will not be effective without public legal awareness. Therefore, the state needs to intensify socialization and education regarding the importance of IPR, targeting creators, business actors, and digital technology users. Continuous legal education is expected to foster a legal culture that respects the exclusive rights of IPR owners and reduces the incidence of violations in the digital space.
5. Strengthening national and international cooperation. Considering that IPR violations in the digital era are often cross-border, international cooperation becomes very important. Indonesia needs to strengthen its participation in international agreements and forums on IPR and enhance cross-jurisdictional law enforcement cooperation mechanisms. At the national level, collaboration between the government, law enforcement agencies, and electronic system operators also needs to be enhanced to create an integrated IPR protection system.

By consistently and continuously implementing these strategies, the protection of Intellectual Property Rights (IPR) from the perspective of national law is expected to provide legal certainty, enhance the effectiveness of law enforcement, and adapt to the challenges of the digital era. Strengthening IPR not only serves as a legal protection instrument but also as part of efforts to build a modern, adaptive, and equitable national legal system.

4. CONCLUSION

This study concludes that although Indonesia's intellectual property rights (IPR) regime has established a relatively comprehensive legal framework aligned with international standards, it remains insufficient in responding to the realities of digital-era infringements,

particularly regarding law enforcement mechanisms, electronic evidence, and transnational violations. The persistence of this normative–practical gap highlights the need for comprehensive strengthening through adaptive regulatory reform, enhanced institutional capacity, and improved public legal awareness. These findings offer both academic and policy contributions by emphasizing that effective and equitable IPR protection in the digital era is essential to fostering sustainable innovation and strengthening Indonesia’s national competitiveness.

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- Law No. 32 of 2000 concerning Integrated Circuit Layout Designs.
- Law No. 28 of 2014 concerning Copyright.
- Law No. 13 of 2016 concerning Patents.
- Law No. 20 of 2016 concerning Trademarks and Geographical Indications.
- Government Regulation of the Republic of Indonesia Number 36 of 2018 concerning the Recordation of Intellectual Property License Agreements.