

Optimization of Intellectual Property Rights to Drive Business Innovation in the Digital Era: A Review

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ARTICLE INFO

Keywords: Intellectual Property, Business Innovation, Legal Protection, Digitalization, Blockchain, Law Enforcement, Creative Economy, Policy Reform, Licensing, Intellectual Property Rights

Received : 3 September

Revised : 20 October

Accepted: 20 November

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ABSTRACT

Intellectual Property Rights (IPR) play a strategic role in supporting innovation and business growth in an increasingly competitive digital era. This study aims to examine the role, challenges, and optimal strategies for IPR protection in the business and innovation sectors in Indonesia through a qualitative literature review approach. The analysis was conducted on recent literature since 2015, covering aspects of regulation, law enforcement, and adaptation to advanced technologies such as digitalization and blockchain. The review results indicate that effective IPR protection can enhance business competitiveness, encourage investment, and expand markets for both large enterprises and SMEs. However, challenges such as weak law enforcement, rampant digital infringements, and low public awareness still remain major obstacles to the optimal implementation of intellectual property rights (IPR). Regulatory reforms, enhanced inter-agency collaboration, and comprehensive public education are needed to create an inclusive and sustainable innovation ecosystem. This study recommends strengthening the IPR system through national and global collaboration, as well as leveraging digital technology to improve the efficiency of copyright protection and to strengthen Indonesia's creative economy in the future

INTRODUCTION

Intellectual property rights (IPR) have now become an important foundation in building an ecosystem of innovation and sustainable business in the digital economy era. As an instrument for protecting creative outputs, IPR is not merely legal protection but also a major driver for research, development, and investment in various modern business sectors. In the context of globalization, IPR becomes the key to creating opportunities for local creators to compete fairly and innovatively in international markets (Cornell University et al., 2020). The urgency of IPR protection is increasing along with the rapid digital transformation and the development of innovative technologies. Digitalization has facilitated the process of content replication and distribution, but at the same time, it introduces new challenges in the form of copyright infringement, piracy, and product imitation that are increasingly complex across jurisdictions. Without a robust protection system, creators and businesses face the risk of losing the economic value of the innovations they produce. (Nagar & Singh, 2025).

The implementation of intellectual property rights (IPR) not only impacts large businesses but also small and medium enterprises (SMEs) that are beginning to engage in product and technology innovation. IPR protects intangible assets such as patents, copyrights, trademarks, industrial designs, and trade secrets, all of which play an important role in building competitive advantages and business reputation across various industry sectors. International and national case studies have shown that IPR protection effectively encourages investment, expands markets, and strengthens product identity (Mulumba, 2024).

Although its benefits are recognized, the implementation of intellectual property protection in Indonesia still faces various challenges. Weak law enforcement, high registration costs, and the public's lack of awareness about the importance of intellectual property are the main obstacles to creating a healthy innovative business ecosystem. In addition, differences in legal systems between countries and advances in cutting-edge technologies such as artificial intelligence and blockchain demand more responsive and collaborative intellectual property policies and regulations (Murod et al., 2025).

In the international arena, conventions such as TRIPS and the Paris Convention provide uniform protection standards for various types of IP, but implementation on the ground still faces challenges in addressing cross-border infringements. IP enforcement not only requires clear regulations but also synergy between agencies and cross-country collaboration to create a competitive yet inclusive business environment (Cui et al., 2022). The adoption of digital technologies such as blockchain has been proposed to enhance the transparency and effectiveness of IP enforcement in the virtual world (Karpova, 2015; Lu & Wu, 2024)..

This research aims to examine the urgency, challenges, as well as strategies for handling and enforcing intellectual property rights (IPR) in business and innovation in the digital era, with a focus on implementation in Indonesia and global comparative studies (Christopoulou et al., 2021). Through a review of the latest literature and empirical studies, the research is expected to

produce policy recommendations that support the strengthening of the IPR system to promote innovation, knowledge-based economic growth, and sustainable protection of creators' rights (Febianto, 2025; Torous, 2024).

LITERATURE REVIEW

Intellectual Property Rights (IPR) are a crucial foundation for building a sustainable innovation and business ecosystem. In addition to protecting creative outputs, IPR also serves as a key driver for research, development, and investment across various sectors. In an increasingly globally connected world, understanding the basic concepts of IPR becomes essential for creating opportunities and overcoming challenges in managing intellectual property (Khawand et al., 2024).

1. Definition of Intellectual Property Rights (IPR)

Intellectual Property Rights (IPR) refer to the exclusive rights granted to individuals or legal entities over intellectual works that involve creativity, innovation, and expression. IPR provides legal protection for human creations of an intellectual nature, whether in the form of technological inventions, works of art, or business identities such as trademarks. This concept is designed to give creators incentives to obtain economic benefits from their works. By providing official recognition through legal protection, IPR ensures that these works are not used without permission by other parties (Rahayu et al., 2024).

Intellectual property rights (IPR) play a significant role in building the relationship between economic value and creativity. IPR serves as a bridge connecting individual creativity with sustainable economic value, creating incentives for innovation across various sectors. This definition illustrates the essence of IPR as an important instrument in facilitating innovation growth and protecting creators' rights (J. Smith, 2021).

In Indonesia, the regulation of intellectual property rights (IPR) is found in various laws such as Law No. 28 of 2014 on Copyright and Law No. 13 of 2016 on Patents. These two laws provide a solid framework for protecting creators' rights and promoting local innovation. However, challenges in implementation, such as the lack of public understanding, remain issues that need to be addressed to create an ecosystem that supports creativity and innovation. Strong law enforcement and public education are key elements in ensuring the success of the IPR system in Indonesia (Permana et al., 2023; Prasad et al., 2023)..

Internationally, Intellectual Property (IP) is also regulated in agreements such as the Paris Convention and TRIPS. These two instruments serve as global standards for protecting intellectual works across borders. The implementation of these agreements in Indonesia demonstrates the country's commitment to strengthening protection for local works and competing in the global market. The definition of IP, in addition to covering legal aspects, also implies a strategic role in supporting sustainable economic and social development (da Veiga et al., 2025).

In an increasingly globally connected world, the definition of intellectual property (IP) has become more complex due to technological developments and digitalization. Blockchain technology has opened new opportunities for IP

protection in the digital space (Lu & Wu, 2024). This expands the scope of the IP definition, making it not only a legal tool but also a technological innovation that promotes fairness and transparency to provide protection for intellectual works (Saputro et al., 2025).

2. Types of Intellectual Property

IPR encompasses a wide range of protections designed to safeguard the results of human creativity in various fields. Each type of IPR has different characteristics and protection objectives according to the needs of creators, inventors, or business actors. Patents, copyrights, trademarks, industrial designs, and trade secrets are the main types of IPR commonly recognized in national and international legal systems. The diversity of IPR types reflects efforts to provide a comprehensive protection framework for various forms of intellectual works (Q. Luo & Zhao, 2024).

One of the most well-known types of IP is patents, which protect new inventions in the field of technology. Patents grant the inventor exclusive rights to exploit the innovation for a specific period of time. Copyrights protect artistic, literary, musical works, and other original creations. Trademarks protect the identity of products or services that distinguish them in the market. IP encompasses various forms of protection, from technological innovations to artistic expressions, creating a framework to safeguard every aspect of human creativity (Robert, 2022).

Industrial design that protects the visual aspects of a product also plays an important role in the creative industry (Ayunistia et al., 2025). This protection allows designers to gain recognition for works that are aesthetic in nature. Trade secrets provide protection for business information that has economic value, such as formulas or production methods that are not known to the public. The existence of trade secrets is key to maintaining competitiveness in various industrial sectors, especially those focused on process or product innovation (Elpina, 2024).

In Indonesia, this type of intellectual property rights (IPR) is regulated under various laws including the Patent Law, Copyright Law, and Trademark Law. The legal system is designed to provide protection that aligns with the characteristics of each type of IPR. In practice, challenges such as high registration fees and complicated bureaucratic processes often become obstacles for creators to register their works. To address this, the government has introduced various reforms, including the digitization of the IPR registration system (Febianto, 2025).

At the international level, agreements such as TRIPS and the Paris Convention provide uniform protection standards for various types of intellectual property (IP) worldwide. These standards facilitate international trade and ensure that creators receive fair protection across different jurisdictions. Challenges such as IP violations in the digital era remain a global issue that requires international collaboration. With the various types of protection offered, IP becomes a strategic tool to drive innovation, enhance competitiveness, and protect the economic interests of creators around the world (Febianto, 2025).

3. The Legal Aspects of IP in Indonesia and Internationally

The intellectual property (IP) legal system in Indonesia and internationally is designed to protect the rights of creators, inventors, and business actors, while also ensuring a balance between innovation, economic interests, and public accessibility (Castaldi et al., 2024). At the domestic level, Indonesia has various legal regulations governing IP protection, such as Law Number 28 of 2014 on Copyright, Law Number 13 of 2016 on Patents, and Law Number 20 of 2016 on Trademarks and Geographical Indications (Yulianti et al., 2025). These regulations provide a comprehensive framework to protect local creative works and encourage national innovation (Suominen et al., 2023). In the implementation of intellectual property law in Indonesia, one of the main challenges is the public's lack of awareness about the importance of registering intellectual works. There are still obstacles in law enforcement, such as rampant piracy and trademark violations (Yulianti et al., 2025). An effective legal system for IP protection must include not only clear regulations but also strong enforcement mechanisms to protect creators' rights. This shows that a solid legal system must be supported by institutions capable of consistently enforcing the law (Jones, 2020).

At the international level, the TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights) serves as the basis for intellectual property protection in World Trade Organization (WTO) member countries. The agreement sets minimum standards for IP protection in various countries, covering aspects such as patents, copyrights, trademarks, industrial designs, and trade secrets. As a WTO member, Indonesia is obliged to comply with TRIPS provisions, including harmonizing domestic laws with international standards. This ensures that local creators can compete in the global market with equivalent legal protection (Sulistianingsih & Ilyasa, 2022).

The implementation of intellectual property law in Indonesia still faces various challenges. One obstacle is the lack of coordination between government agencies in monitoring IP violations (Elpina, 2024). The prevalence of IP violations in the digital realm, such as digital content piracy and the unauthorized use of trademarks, indicates the need for legal adaptation to technological developments. With the increasing complexity of international collaboration, it becomes important to address cross-border violations (Mermelstein & Stevens, 2021). Partnerships within ASEAN in harmonizing IP laws show tangible steps in addressing these issues (Tenni et al., 2023).

In the global context, intellectual property law systems continue to evolve in line with changing times. Digitalization opens up new opportunities for IP protection but also brings new challenges, such as copyright infringement on digital platforms (Mane, 2024). A more innovative approach is needed in implementing IP law, including the use of blockchain technology to ensure transparency and fairness in managing intellectual works (Lu & Wu, 2024). Aspects of IP law, in addition to involving conventional regulations, also require adaptation to global developments and technology (Szilágyi & Gyarmathy, 2023).

4. Benefits of IP Protection

Intellectual Property Rights (IPR) protection has wide-ranging benefits for individuals, companies, and society. By granting creators exclusive rights to their intellectual works, IPR creates incentives to continue innovating. This protection also ensures that creators can economically benefit from their works through licensing, sales, or exclusive use (Yulianti et al., 2025).

For individuals, IPR provides a sense of security that their work is legally recognized and protected. This allows creators to feel more confident in exploring new ideas without worrying about the risk of plagiarism or theft (Ayunistia et al., 2025). IPR protection provides a foundation that allows creativity to flourish without obstacles while also creating economic opportunities for creators. These benefits reflect how IPR directly contributes to the development of individuals and the creative economy (Brown, 2023).

In a business context, intellectual property (IP) becomes a strategic asset that increases the value of a company. A strong trademark creates a unique identity that differentiates products in the market, while patents can provide a competitive advantage by protecting new technologies from imitation (Hammami, 2021). In the technology sector, companies with a strong patent portfolio are often more attractive to investors because they are considered to have great growth potential. IP protection serves as a catalyst for investment and innovation-driven economic growth (Beer, 2021).

IPR protection also encourages the development of knowledge and culture. Through copyright protection, artists and writers are encouraged to create new works that enrich society's culture (Kumar, 2024). In the academic world, IPR protection ensures that research results are recognized and used ethically, promoting cross-disciplinary and international collaboration. By giving recognition to intellectual works, IPR plays a role in promoting the advancement of knowledge and innovation (Hammami, 2021).

Another benefit is promoting national competitiveness. Countries with a strong intellectual property rights (IPR) system tend to attract more foreign investment because it provides adequate protection for intellectual assets (T. P. T. Nguyen et al., 2023). In Indonesia, IPR protection has become one of the key pillars in the creative economy development strategy (Ayunistia et al., 2025). Through education programs and simplified IPR registration, the government aims to raise public awareness and encourage local innovation (Prasad et al., 2023). The benefits of IPR protection are felt not only by individuals but also by the public (Yulianti et al., 2025).

These benefits can only be achieved if the intellectual property rights (IPR) protection system functions properly. Challenges such as copyright infringement, piracy, and lack of public awareness must be addressed through an integrated approach (Cui et al., 2022). In the long term, investment in education, technology, and law enforcement will ensure that IPR protection provides maximum benefits for all parties involved (Christopoulou et al., 2021). Through the right approach, IPR can serve as a key pillar for creating a sustainable and inclusive innovation ecosystem (Beer, 2021).

5. Challenges in IPR Implementation

The implementation of IP protection faces various complex challenges at both national and international levels. One of the main challenges is the low level of public awareness about the importance of IP (Jee & Sohn, 2023). Many creators do not realize that their works have value that can be legally protected. The IP registration process, which is considered complicated and expensive, often becomes a barrier for individuals or small businesses to register their works (Laksmi & Danyathi, 2025).

The greatest challenge in IP implementation is creating a balance between protecting creators' rights and ensuring fair accessibility for the wider public. This highlights the importance of an inclusive approach in ensuring that IP protection can be enjoyed by all parties, without exception (Tanaka, 2024). In Indonesia, another challenge is the widespread violation of intellectual property rights (IPR), such as piracy and unauthorized use of trademarks (Sahlan et al., 2024). These violations not only harm creators but also weaken national competitiveness. In the digital era, IPR violations have become more complex, especially with online platforms that facilitate the distribution of illegal content. Therefore, more adaptive regulations are needed to address this challenge (Hamza & Pradana, 2022).

At the international level, differences in legal systems between countries often become obstacles in enforcing IPR protection (Zhai, 2023). Although agreements like TRIPS have provided a uniform framework, implementation on the ground still faces challenges, particularly in handling cross-border violations. This indicates the need for closer international cooperation to ensure that the IPR system functions effectively (Limanto et al., 2024).

Another challenge is ensuring that intellectual property protection does not become a barrier to public access to technology and information. Overly strict protection can limit innovation and the widespread use of technology (Chang & Sellak, 2022). A balanced approach is needed between providing incentives for creators and ensuring that the public can still access the results of innovation fairly. This challenge must be addressed through collaboration involving the government, society, and the private sector (Yulianti et al., 2025).

To overcome these various challenges, education and public awareness are key. The government needs to strengthen law enforcement mechanisms and provide incentives for creators to register their works (Christopoulou et al., 2021). With an inclusive and innovative approach, the challenges in implementing IP can be overcome, creating an ecosystem that supports creativity and sustainable innovation (Beer, 2021).

METHODOLOGY

This study uses a qualitative literature review method, an approach that focuses on the in-depth collection, critical examination, and interpretation of relevant literature to understand Intellectual Property (IP) issues in business and innovation. In this method, researchers do not strictly limit the analysis process based on inclusion or exclusion criteria of articles as in systematic literature reviews, but rather emphasize thematic relevance and diversity of perspectives, allowing a more holistic and contextual exploration of the issues. The selected literature consists of journal articles, books, and primary research reports published since 2015, as well as other verified academic sources (Susanto et al., 2024).

The stages of a qualitative literature review begin with the identification of the topic and central issues, followed by the search for primary literature discussing intellectual property rights (IPR), innovation, and economic as well as legal relevance in the digital era. The literature selection process is carried out by considering the conceptual, methodological contributions, and findings of each source, which are then analyzed narratively to identify patterns, differences, and potential avenues for further research in the field. The strength of this approach lies in its ability to connect various perspectives and deepen the understanding of IPR dynamics across sectors and regions (Susilawati et al., 2025).

During the review process, the researcher conducted a thematic synthesis of the main findings from each source, including the management of intellectual property rights (IPR) in business, enforcement challenges, the evolution of innovation in the context of globalization, and the interaction between regulation and advanced technology. In addition to producing concept maps and theoretical narratives, the qualitative literature review also allows for the exploration of issues that have not been widely studied quantitatively, such as the influence of IPR policies on innovation sustainability or the impact of digitalization on copyright enforcement. Thus, this method provides a comprehensive foundation for formulating theoretical and practical implications for strengthening the IPR system in Indonesia and the business world in general (Snyder, 2019, 2024).

RESULTS AND DISCUSSION

The Role of Intellectual Property Rights in the Business World

IPR protection plays a vital role in building a competitive business ecosystem. In the business world, IPR serves as a strategic tool to maintain competitive advantages, safeguard innovations, and facilitate business collaborations through licensing and franchising. Violations of IPR have serious consequences on business continuity, both legally and financially (Bruno et al., 2022).

1. IPR as a Business Asset

IPR has developed into a very valuable business asset. This asset not only involves tangible wealth that can be seen, but also includes intangible elements that have significant economic value. In the modern business world, IPR such as patents, copyrights, and trademarks are an integral part of a company's strategy in creating and maintaining competitive advantage (Castaldi et al., 2024). IPR is the backbone of a company's sustainability in a knowledge-based economy. This

clearly illustrates the importance of IPR in today's business world, where intellectual property has become a key resource in building reputation and consumer trust (Walsh et al., 2021).

Patents, which provide exclusive rights to technological innovations, are the most valuable form of intellectual property for companies in the technology and pharmaceutical sectors. A company that successfully develops a new product or previously non-existent technology can patent the innovation to protect exclusive rights over the product. This offers a significant competitive advantage, as only the patent-holding company can produce and sell the product without interference from competitors. Intellectual property rights give companies the freedom to innovate without fear of theft or imitation by others. In addition to gaining financial benefits from the sale of the product or technology, companies also strengthen their market position by creating barriers for competitors to enter the same market (Johnson, 2023).

Trademarks also have invaluable value in the business world. Trademarks protect a company's identity and reputation in the market. Consumers tend to prefer products from brands that are already known and trusted. A trademark is not just a symbol, but also a representation of the quality and credibility of a product. Registered trademarks give a company the exclusive right to use symbols, names, or logos associated with the product, thereby building strong brand recognition among consumers. Trademarks create an emotional connection between consumers and products, which ultimately strengthens the company's competitiveness (Rienda et al., 2021).

In the creative sector, copyright also plays a very important role in protecting works of art, literature, music, and software. These works, although not physically tangible like products or technology, have high economic value. With copyright, the creators of works have full control over the use of their creations, whether through sales, licensing, or use by third parties (Asri, 2020). Copyright not only protects individual creativity but also enables the creative industry to grow by facilitating the distribution and monetization of works. Effective IP management in the creative sector creates extensive business opportunities for industry players, as well as protects the moral and economic rights of the creators (Chang & Sellak, 2022).

2. IP Utilization Strategy for Competitive Advantage

The effective utilization strategy of intellectual property rights (IPR) is very important for companies that want to maintain and expand their competitive advantage. In the highly competitive business world, IPR not only serves as a protection tool but also as a means to enhance competitiveness (Bruno et al., 2022). Proper use of IPR provides companies with advantages that are difficult for competitors to imitate. Large technology companies like Apple and Samsung rely on patents to protect innovations that allow them to lead the market with products highly valued by consumers. An effective IPR strategy drives product differentiation and secures consumer loyalty (Hernandez, 2021).

In the technology industry, patents serve to give companies exclusive rights to new technologies they develop. This provides companies with the opportunity to utilize the technology without interference from competitors. If a

company develops new technology in the field of hardware or software, it can patent the innovation to ensure that only the creator can produce and sell the product for a certain period of time (Manurung & Simamora, 2025). Thus, patents not only give companies the right to gain financial benefits from the technology, but also allow them to create a sustainable competitive advantage (Su et al., 2022).

Trademarks also play an important role in creating a competitive advantage. Registered trademarks allow companies to protect the names, logos, and symbols used to market products (Christopoulou et al., 2021). Consistent and strong use of trademarks can help companies build high brand recognition in the market, which in turn increases consumer loyalty. Registered trademarks give consumers confidence in purchasing genuine and quality products. With registered trademarks, companies can protect themselves from imitation or counterfeiting efforts that could damage their market reputation (Grimaldi et al., 2021).

In the creative industry, copyright provides a great opportunity to leverage creative works as a source of income. Publishing companies or film studios can license copyrighted works to third parties who will pay royalties for their use (Raková, 2021). Apart from protecting creativity, copyright also opens up opportunities to monetize these works. Licensing copyrighted works creates an additional revenue stream that can enhance a company's profitability. This is especially important in industries that rely on creativity, such as film, music, and software, where royalties from the use of copyrighted works can become a significant source of income (Grimaldi et al., 2021; Purwaningsih et al., 2025).

The strategy of utilizing intellectual property rights (IPR) also helps companies expand their markets through licensing and franchising agreements (Kencono, 2023). Through licensing, companies can grant permission to others to use technology or brands in different markets without losing exclusive rights to the products or services. Licensing agreements can help companies reach wider markets without having to make large investments in infrastructure or distribution. IPR licensing expands market reach and creates productive business synergies. By leveraging IPR through licensing and franchising, companies can optimize revenue potential in the global market (Dussaux et al., 2022).

3. IPR in Licensing and Franchising Agreements

License and franchise agreements are two main examples of how companies can leverage intellectual property to expand their business. A license grants another party the right to use protected technology or trademarks without transferring ownership rights (Syafira & Santoso, 2025). In a business context, a licensing agreement allows a company to reach new markets or expand product reach without having to make significant upfront investments (Su et al., 2022). A pharmaceutical company holding a patent for a particular drug can grant a license to another company to manufacture and sell the product in developing countries, which potentially have a large market but require significant investment to build their own distribution infrastructure. Intellectual property licensing allows companies to expand market reach and create mutually beneficial synergies (Martinez, 2020).

In the case of franchising, trademarks are the main assets used to expand business networks (Syafira & Santoso, 2025). Franchising grants other parties the right to use a name as well as a business system that has proven successful in other markets (Kencono, 2023). The franchise business model is very effective in the food and beverage sector where brands like McDonald's and KFC have successfully expanded their reach internationally. Franchising is an efficient way for companies to expand their market with lower risk and less capital. In this model, the trademark owner grants the franchise partner the right to open new branches in different locations in exchange for royalties or a percentage of revenue. Franchising is one of the best ways to leverage the power of trademarks and accelerate business expansion (Latifiani et al., 2022).

The importance of intellectual property rights (IPR) in license and franchise agreements cannot be ignored because both rely on the exclusive rights granted to the IPR holder. Without strong legal protection for trademarks and patents, companies will not be able to safeguard their identities and innovations, which could be detrimental to both parties in the agreement (Bruno et al., 2022). Proper management of IPR is key to building mutually beneficial business relationships. Well-structured license and franchise agreements create a win-win situation for all parties involved (Kencono, 2023).

License and franchise agreements can create opportunities for companies to earn passive income through royalties or license payments. This is particularly crucial for companies that own highly valuable technology or brands, as it allows them to maximize income from the use of intellectual property without having to invest in production or distribution (Syafira & Santoso, 2025). Passive income earned through licenses and franchises can provide a stable revenue stream for companies. Through license and franchise agreements, companies can expand their business more widely, reduce risks, and increase profits (Latifiani et al., 2022).

4. The Impact of Intellectual Property Infringement on Business

Violations of intellectual property rights (IPR) can have very detrimental impacts on companies and individuals involved. IPR infringement cases often occur in various forms, from brand imitation, product counterfeiting, to violations of patents and copyrights (Latifiani et al., 2022). IPR violations can damage a company's reputation, reduce consumer trust, and even cause significant financial losses. One of the most direct impacts of IPR violations is the loss of revenue due to counterfeit or fake products being sold at lower prices. These counterfeit products often have lower quality, which can harm the brand image and affect consumer loyalty. IPR violations can result in substantial losses for companies, both financially and reputationally (Y. Wang, 2022).

Intellectual property violations can lead to the loss of the hard-earned competitive advantage. When competitors can imitate patented products or technologies without fear of legal consequences, the patent-holding company can lose its dominant market position (Celestin, 2025). In the technology industry, many companies spend significant time and resources developing new innovations, yet these products can easily be counterfeited by competitors who do not respect intellectual property rights. Without adequate protection of

intellectual property, innovation can be hindered and companies can lose their competitiveness (Bruno et al., 2022).

Violations of intellectual property rights (IPR), in addition to affecting large companies, are also very detrimental to micro, small, and medium enterprises (MSMEs) (Asri, 2020). Counterfeit products sold at lower prices can dominate the market, making it difficult for original products to compete. Many MSME actors lack the resources to adequately protect their IPR, making them vulnerable to theft or product imitation (Rienda et al., 2021). It is crucial to raise awareness about the importance of IPR among small and medium business actors and to provide legal support to help protect these rights. Better IPR protection can help MSMEs survive and grow in a highly competitive business environment (Asri, 2020).

Intellectual property rights (IPR) violations can also lead to serious legal consequences. Companies that infringe IPR may face legal sanctions that include hefty fines or even bans from operating in certain markets. Lengthy and costly litigation processes can also drain company resources and cause significant disruptions to business operations (Elpina, 2024). IPR disputes can divert management's attention from core priorities, potentially affecting the company's long-term performance (Abduh & Fajaruddin, 2021). It is crucial for companies to take proactive measures to prevent infringements and ensure they have adequate legal protection to uphold their rights (Bruno et al., 2022).

IPR violations have wide-reaching and serious impacts on companies. These violations not only harm companies financially but can also damage their reputation and reduce consumer trust (Abduh & Fajaruddin, 2021). It is important to have effective protection mechanisms for IPR and to strictly enforce the law to prevent such violations from occurring (Le et al., 2023). This is crucial in ensuring that companies can continue to innovate, maintain competitiveness, and provide added value to consumers and society (Neonbeni et al., 2025).

5. Case Study on IPR Management in Companies

A case study on IPR management in companies can provide valuable insights into how large and successful companies use IPR to strengthen their market position. One of the best examples of successful IPR management is the electric car company Tesla. Tesla has decided to open its patents for free, with the aim of promoting the development of the electric vehicle industry. A collaborative approach to IPR can accelerate technological progress and expand benefits for society (Bruno et al., 2022). In doing so, Tesla not only protects its own innovations but also contributes to greater technological advancement in the automotive industry (H. Nguyen, 2021).

On the other hand, companies in the creative industry also provide an interesting example of how careful management of intellectual property rights (IPR) can generate long-term benefits. Disney is one company that heavily relies on copyright and trademark protection to safeguard its iconic creations such as the Mickey Mouse character (Le et al., 2023). Effective IPR management in the creative industry helps companies maintain competitiveness and create a stable revenue stream (Ayunistia et al., 2025). Through this strategy, Disney not only

protects its copyrights but also generates additional income through licensing and merchandise related to its brand (Syafira & Santoso, 2025).

The success of these two companies demonstrates the importance of proper intellectual property management in creating and maintaining a competitive advantage. Whether in the technology or creative sectors, companies can leverage intellectual property to provide increasing value to consumers and society as a whole (Ayunistia et al., 2025). Companies that can manage intellectual property well not only protect assets but also create new business opportunities. It is important for companies to understand how to manage intellectual property effectively to maximize its benefits and maintain their position in a competitive market (Markova, 2018).

Effective intellectual property rights (IPR) management is a key to long-term success in increasingly knowledge-based businesses. Companies that can protect and wisely utilize IPR will be able to create new innovations, expand markets, and increase revenue (Ode & Faisal, 2025). It is crucial for every company to have a clear strategy in managing IPR, both in terms of protection and utilization. A good IPR management strategy provides a strong foundation for companies to grow and innovate (Neonbeni et al., 2025).

The importance of good intellectual property (IP) management is also evident in the increased collaboration between companies and various external parties such as research institutions, universities, and government agencies (Elpina, 2024). Through this collaboration, companies can access new technologies, obtain funding, and expand their networks. External collaboration in IP management can provide companies with greater competitive advantages. This shows that IP management, in addition to focusing on individual protection, also emphasizes collaboration and synergy between various parties to create shared value (Le et al., 2023).

6. IP and Technological Innovation

IPR plays a provides crucial role in supporting technological innovation in the modern era. IPR protection legal security for innovators to explore new ideas without fear of theft or infringement of their works (Abduh & Fajaruddin, 2021). IPR encourages healthy competition in technology development, creating a conducive environment for global progress. The utilization of IPR is not only relevant for large companies but also serves as a foundation for startups and researchers to create added value in the technology ecosystem (Manurung & Simamora, 2025).

7. IPR as a Driver of Innovation

Intellectual Property Rights (IPR) function not only as protection for creations but also as a trigger for the growth of innovation itself. In the context of business and technology, IPR allows inventors and entrepreneurs to enjoy the results of their creations. With patents or copyrights, individuals or companies can control the use of the products or technologies they create. This creates a favorable climate for further development, as innovators know they have exclusive rights to their creations for a certain period of time. This protection is crucial in an increasingly competitive world, especially in sectors with significant economic potential such as technology and pharmaceuticals (Krishna et al., 2022).

In the technology sector, patents provide a competitive advantage by preventing competitors from using the same technology without permission. Companies can gain substantial financial benefits that can be used to fund further innovation. IPR serves as a key catalyst in the innovation ecosystem, transforming ideas into valuable products. Creators who hold patents for technologies can attract investors who feel safer investing capital because IPR protection ensures that research and development results will be rewarded (R. Smith, 2022). IPR also functions as a tool to maintain and strengthen a company's competitiveness. In the innovative technology industry, sustainability heavily depends on how well a company protects its research and development. IPR protection provides assurance that innovators will receive recognition and economic benefits from the technologies they create (Maurya et al., 2022). In the high-tech sector, where competition is fierce and time is a critical factor, having strong IPR can be a major differentiator between success and failure. Through patents and copyrights, companies not only gain the right to exploit innovations but can also license the rights To exploit innovations, they can also license rights to third parties to gain additional profit. Intellectual property rights (IPR) not only play a role in protection but also in opening new opportunities for monetizing innovations (Waghmare et al., 2023). The public sector benefits from IPR protection. Governments often encourage the development of technology by providing incentives to researchers and entrepreneurs who innovate. Policies that support IPR protection can create a healthier and more dynamic ecosystem where innovators feel more motivated to continue developing their work (Febianto, 2025). Countries with more advanced IPR systems tend to be more successful in attracting investment in the technology sector, which boosts the overall economy (Dussaux et al., 2022). The existence of a strong intellectual property (IP) system is an important element in facilitating the development of new technologies and attracting investment for further research and development. With solid protection in place, individuals and companies feel secure investing in research and development that leads to technological breakthroughs (Febianto, 2025). IP helps maintain the innovation process in the academic and research sectors. Many studies that produce significant discoveries are often based on patents or copyrights, which allow the monetization of their work (Ali & Tang, 2023). In many cases, universities and research institutions also utilize IP as a way to promote the commercialization of research results, so that inventions initially limited to the laboratory can evolve into products used by the broader public (W. Wang & Liu, 2022). IP protection helps prevent plagiarism and theft of ideas that can harm researchers and scientists. This is important to maintain scientific integrity and encourage more research to be conducted. Intellectual Property Rights (IPR) play an important role in creating incentives to develop knowledge and technology (Hou et al., 2023).

8. Patents in Research and Technology Development

Patents play a very important role in the world of research and development (R&D). Patents provide protection to inventors by granting exclusive rights to exploit their creations, whether in the form of products, processes, or new technologies (Tamboli et al., 2023). By having a patent, an

inventor has full control over the use of the technology created. This is particularly important in fields involving significant investment and long timelines, such as pharmaceuticals, biotechnology, and other high-tech industries. Without patent protection, inventors face a significant risk that their innovations may be used by others without proper compensation (Miller, 2020).

Patents, in addition to protecting creations, also encourage the development of new technology. The process of obtaining a patent motivates inventors to conduct in-depth research and ensure that their creations are truly new and original. Patents, besides being a form of protection, are also an important step in the innovation process itself (Chen & Chen, 2024). In the field of pharmaceuticals, a company may need years to develop a new effective drug. Without patents protecting their creations, the company would have no incentive to continue investing in research and development as they would not be able to enjoy the benefits of their work. Patents provide the necessary incentive to innovate by offering protection for new and original ideas (Garcia, 2021).

The patent application process also creates transparency in the world of technology. With registered patents, the public can access information about the latest technologies being developed (Lundaeva & Gintciak, 2025). This provides opportunities for other companies to study and adapt these technologies for their own purposes, of course, while observing applicable regulations and licenses. Patents serve as a bridge between private technological development and broader-scale implementation. Some technologies discovered through patent research can even serve as the basis for further technological development, creating an increasingly advanced cycle of innovation (Song et al., 2022).

It is important to note that patents have their own challenges (Elpina, 2024). The process of obtaining a patent requires considerable time and cost. In some cases, the patent system can be used to hinder technological progress through what is called patent thickets, which are accumulations of patents so numerous that they create barriers for others to innovate (K. Luo & Zor, 2024). It is crucial for countries and patent offices to pay attention to the quality and relevance of the patents issued, so as not to create new obstacles in technological development. An efficient and transparent patent process is key to encouraging innovation and accelerating the commercialization of new technologies (Lee & Park, 2023).

9. The Future of IP in the Digital Era

The digital era presents new challenges in terms of intellectual property (IP) protection, especially related to new technologies such as artificial intelligence (AI), blockchain, and big data (Hamza & Pradana, 2022). IP protection needs to adapt to cover rapidly evolving new technologies. AI-based software often produces works that are difficult to distinguish between human and machine creation. Regulations regarding patents and copyrights need to be updated to encompass complex technology-based innovations (Syafira & Santoso, 2025). One promising innovation for the future of IP protection is the use of blockchain (Lu & Wu, 2024). This technology offers a safer and more transparent way to protect intellectual works because every transaction or usage of rights can be recorded in a system that cannot be altered (Hamza & Pradana,

2022). With blockchain, creators can ensure that their rights are digitally recorded and cannot be forged, providing greater transparency in the protection system (Anderson, 2024).

CONCLUSIONS AND RECOMMENDATIONS

This study emphasizes the central role of Intellectual Property Rights (IPR) as a pillar in developing an innovation ecosystem and sustainable business growth in Indonesia. Protection for patents, trademarks, and copyrights has been regulated in national legislation that is increasingly aligned with international standards such as TRIPS and the Paris Convention, effectively safeguarding the creativity and research outcomes of both inventors and business actors.

The commercialization of IPR has become a key driver of creative economy growth. With proper management, exclusive rights can enhance competitiveness, secure investments, and promote the creation of new jobs in innovation-based business sectors. The existence of IPR provides incentives for inventors to continue creating, as well as ensures legal certainty over marketed works..

However, this study also identified the main challenges in the implementation of intellectual property rights (IPR), namely weak law enforcement, complex bureaucracy, and inefficiencies in the registration system and dispute resolution. The prevalence of digital violations, piracy, and product counterfeiting calls for continuous reforms in regulation and oversight, especially concerning digital products and AI-based works.

Digitalization and economic globalization accelerate the distribution of innovation but also increase the risk of cross-jurisdictional IPR violations, adding complexity to law enforcement and copyright protection in cyberspace. Policy reforms are needed to respond to the dynamics of e-commerce, digital branding, and the transformation of the creative industry to remain relevant and effective in safeguarding the rights of creators and business actors.

Indonesia's efforts to strengthen the legal framework and IP protection deserve appreciation, as evidenced by the establishment of a patent appeal commission as well as the recognition of traditional knowledge and cultural expression protection in national and international law. Multilateral, regional, and bilateral collaboration is increasingly needed for regulatory harmonization, enhancing law enforcement capacity, and public education on the importance of IP.

Thematically, literature shows that IP not only has a positive impact on large enterprises but is also highly relevant to the development of SMEs, the creative industry, and digital technology. Through the strengthening of an inclusive and responsive IP system, Indonesia can enhance global competitiveness and foster a resilient, innovative business ecosystem.

Taking into account the main recommendations of this study, strengthening the intellectual property system must be accompanied by regulatory reform, enhanced inter-agency synergy, and international collaboration to create an innovation ecosystem, knowledge-based economic growth, and sustainable protection of creators' rights in the digital era.

FURTHER STUDY

This research has limitations so that further research is needed on the topic of Optimization of Intellectual Property Rights to Drive Business Innovation in the Digital Era: A Review to perfect the research and increase insight for readers and writers.

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