

Legal Protection of Intellectual Property Rights in the Digital Industry: A Review of Legal Developments and Implementation Challenges

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ABSTRACT

This research aims to understand the Legal Protection of Intellectual Property Rights in the Digital Industry: A Review of Legal Developments and Implementation Challenges. The literature study will also include a review of relevant legal literature, especially relating to intellectual property protection in the digital era. In addition, legal sources related to IPR in the digital era are also an important basis for this analysis, ensuring a deep understanding of the existing regulatory framework. By utilizing the latest literature and relevant legal sources, this research can provide a comprehensive understanding of the challenges, trends and solutions in protecting IPR amidst the dynamics of digital technology. Research results Legal protection of intellectual property rights (IPR) in the digital era is a complex and vital issue that requires a holistic approach. Challenges include copyright infringement, data security, and global competition for patents and trademarks. Strong and effective regulations are needed to address these challenges without stifling innovation and economic growth. Awareness of the importance of intellectual property rights must be increased through extensive educational campaigns and programs by increasing their understanding of copyright, patents, trademarks and industrial designs, individuals will play a greater role in respecting and protecting intellectual property rights in the digital era.

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1. INTRODUCTION

Currently, in the digital era which continues to develop rapidly, changes in the economic and technological landscape have had a significant impact on the legal protection of intellectual property rights (IPR). The concept of IPR is becoming increasingly important along with increasing economic activity driven by innovation and creativity, especially in sectors that depend on

intellectual activities such as creative industries, information technology, and research and development [1]. Intellectual property rights cover various aspects, including copyrights, patents, trademarks, trade secrets and other related rights that protect intellectual works, inventions and brand identities from unauthorized use by others. Legal protection for IPR aims to encourage innovation, promote investment in

research and development, and provide incentives to creators and innovators to continue creating new works [2]. Initially, regulations regarding intellectual property rights in Indonesia had existed since the 1840s. Regulations regarding trademark rights were implemented in the Dutch East Indies in 1912 in the Industrial Eigendom Regulations contained in Staatsblad No. 545 of 1912.

Later in the same year, the Octrooi Wet which regulates patents came into force. And two years later the Dutch East Indies Government issued a calm regulation on Copyright in Staatsblad No. 600 of 1912 on Auteurswet. Copyright is the most frequently used right in the current digital era. Law Number 19 of 2002 concerning copyright is quite effective because with the development of technology and the digital era, copyright theft and duplication of digital assets occur more frequently. The application of copyright law is also important in the current digital era because it provides legal action for perpetrators who are proven to have violated copyright protection. In an era where digital technology innovation occurs rapidly, Law Number 13 of 2016 concerning Patents is the key to protecting exclusive rights to certain inventions or innovations. Technology companies compete for patents to dominate the market and gain competitive advantage including how patents are accessed, retained or shared with others. In today's digital era, brands play an important role in differentiating a product or service from its competitors, but with increasingly rapid technological developments, brand protection must be integrated into online branding strategies. Law Number 20 of 2016 concerning Trademarks and Geographical Indications is used to protect trademark rights owners and regulate trademark registration and other matters.

With advances in digital technology, new challenges arise in protecting IPR. The internet and digital technology facilitate faster and easier access to digital content, but also expand the risks of copyright infringement, identity theft and piracy of intellectual

products [3]. Additionally, the concept of intellectual property is faced with ethical and philosophical questions about the nature of ownership and access rights in an era where information can be copied, published, and disseminated quickly and cheaply. In this context, this research aims to investigate the challenges and solutions in protecting IPR in the digital era and to evaluate the effectiveness of existing legal instruments. A holistic approach is needed to understand the complexity of this issue, which involves not only legal aspects, but also social, economic and technological factors. The digital era has brought about fundamental changes in the way we produce, distribute and consume information and intellectual products.

The development of information and communication technology has changed the way we communicate, work, shop and even think. The internet, social media, cloud computing, and artificial intelligence are some examples of technologies that have fundamentally changed the digital landscape. One of the main impacts of the digital era is a paradigm shift in content production and distribution. Previously, intellectual works such as music, films and books were printed in physical format and distributed through conventional channels such as retail stores and cinemas. However, with the emergence of digital platforms such as YouTube, Spotify, and Amazon Kindle, this content can now be accessed directly via the internet quickly and easily [4]. In recent years, there has been a significant increase in copyright infringement in the digital era. Unauthorized copying, illegal distribution, and unauthorized digital content have become pressing problems. The Indonesian government responded by revising copyright laws to accommodate these new challenges. The revision includes stricter provisions regarding online copyright infringement and gives greater authority to law enforcement agencies to take action against violations in the digital realm.

The government's role in building public awareness of the importance of protecting intellectual property. Educational programs and information campaigns were

launched to provide business people, creators and the general public with a better understanding of the rights and obligations related to intellectual property. This includes not only legal aspects, but also an emphasis on the economic and social benefits that can be gained through innovation and respect for intellectual property rights. Internationally, Indonesia is also actively involved in forums and organizations that discuss intellectual property issues in the digital era. Regional and global cooperation is key in facing these cross-border challenges. Indonesia is involved in negotiating trade agreements that cover intellectual property aspects, and is working with other countries to develop a fair and balanced framework. However, legal protection efforts for intellectual property in the digital era are not only the responsibility of the government. As part of the broader ecosystem, the private sector also has a key role in ensuring the success of this initiative. Collaboration between government, industry and academic institutions is important in forming policies that are sustainable and responsive to technological developments.

UUHC is the fourth amendment to the laws and regulations in the field of copyright which were first passed in 1982. Along with the development of art, culture, technology and trade, the types of protected works of creation are increasingly diverse. Copyrighted works in the form of databases are something new that are protected by UUHC. Article 12 UUHC states that creative works are protected in the fields of science, art and literature. The creative works in question include books, computer programs, pamphlets, layouts of published written works, and all other written works; lectures, speeches, and other similar creations; teaching aids made for educational and scientific purposes; songs or music with or without text; drama or musical drama, dance, choreography, puppetry, and pantomime; fine arts in all forms such as painting, drawing, carving, calligraphy, sculpture, collage and applied arts; architecture; map; batik art; photography; cinematography; translations, tafsir,

adaptations, anthologies, databases, and other works resulting from translation. Normatively, it still needs to be understood that UUHC actually protects almost all creative works that are possible to be created by humans. However, what is happening is the issue of differences in approaches taken towards the transfer of copyrighted works. Copyrighted works in the form of computer programs, cinematography, photography, databases and translated works whose protection is valid for 50 years from the time they are first published. In addition, copyrighted works in Indonesia will be protected for the lifetime of the creator plus another 50 years after the creator dies.

2. LITERATURE REVIEW

2.1 *Legal protection*

According to Satjito Rahardjo [5], legal protection is an effort to protect a person's interests by allocating a Human Rights authority to him to act in the context of his interests. According to Setiono [6], legal protection is an action or effort to protect society from arbitrary actions by authorities that are not in accordance with the rules of law, to create order and tranquility so as to enable humans to enjoy their dignity as human beings. According to Muchsin [7], legal protection is an activity to protect individuals by harmonizing the relationship between values or rules which are manifested in attitudes and actions in creating order in social interactions between fellow humans.

2.2 *Intellectual property rights*

Intellectual Property Rights are rights that originate from the work, initiative and creativity of human intellectual abilities which have benefits and are useful in supporting human life and have economic value. The real form of human work, initiative and intellectual creativity can be in the form of science, technology, art and literature. Innovation or creation of a job using intellectual abilities is natural if the inventor or creator receives compensation from the discovery or creation [8]. Intellectual Property Rights include rights that have priority or

what are called Priority Rights, which are granted to registrants of Intellectual Property Rights where the date of receipt is considered to be the same as the date of first receipt in the country of origin. The meaning of being considered the same is not interpreted as a true understanding but only in the form of mere recognition. Priority Rights are a manifestation of the protection aspect of Intellectual Property Rights in countries outside the borders of the applicant's country, considering that basically it is difficult to be separated from international trade [9].

2.3 Digital Industry

The definition of digital industry is a creative industry that uses digital elements and elements of creativity in its products or services. This type of industry is generally the result of information technology products that can be solutions to problems in everyday life.

2.4 Development of IPR Law

Historically, legislation in the field of IPR in Indonesia has existed since the 1840s. The Dutch Colonial Government introduced the first law regarding IPR protection in 1844. Subsequently, the Dutch Government enacted the Trademark Law (1885), the Patent Law (1910), and the Copyright Law (1912). Law No. 7 of 1994 concerning Ratification of the Agreement Establishing the World Trade Organization, Law No. 10 of 1995 concerning Customs, Law No. 12 of 1997 concerning Copyright, Law No. 14 of 1997 concerning Trademarks.

3. METHODS

The literature study will also include a review of relevant legal literature, especially relating to intellectual property protection in the digital era. This will provide a global context and enable comparison with best practices from other countries that have successfully faced similar challenges. The research method used in this study is based on descriptive and qualitative analysis based on the latest literature accessed through various platforms, including Google Scholar, Pubmed, and other academic journal sources.

Through systematic and selective searches, a number of the latest articles, papers and research on intellectual property rights in the digital era can be accessed and analyzed [10]. This literature provides extensive insight into the key issues faced in the legal protection of IPR, as well as solutions that have been proposed in the academic literature.

In addition, legal sources related to IPR in the digital era are also an important basis for this analysis, ensuring a deep understanding of the existing regulatory framework. By utilizing the latest literature and relevant legal sources, this research can provide a comprehensive understanding of the challenges, trends and solutions in protecting IPR amidst the dynamics of digital technology. Qualitative analysis will be used to extract the essence of these findings, enabling the presentation of strong conclusions and meaningful recommendations for further research and policy. The importance of a multidisciplinary perspective in understanding these complex issues will be reflected in a literature search involving contributions from multiple disciplines, including law, information technology, and economics. This allows research to understand the impact of digital technologies in a holistic and comprehensive manner.

4. RESULTS AND DISCUSSION

4.1 Legal Protection of Intellectual Property Rights

Protection of intellectual property rights (IPR) in the digital era includes a series of laws and regulations designed to ensure that intellectual works, innovations and digital creations are properly protected. The right to protect intellectual property rights in the digital era is a set of legal regulations that guarantee the rights of creators or owners of intellectual property rights in the digital environment. Intellectual property includes copyright, patent rights, trademark rights and other intellectual property rights that apply to products or works produced through intellectual processes. In the digital era,

advances in information and communication technology make it possible to reproduce, distribute and access intellectual works quickly and easily. However, this also raises new challenges in protecting creators' rights. Laws protecting intellectual property rights in the digital era include many different legal concepts and mechanisms, including:

- a. Copyright. Copyright law protects creative works such as music, films, books, and software from unauthorized use. In the digital era, activities such as downloading, copying and sharing digital content have raised the issue of copyright protection. Copyright laws and regulations must be updated and adapted to developments in digital technology to ensure adequate protection.
- b. Patent. Patents protect the owner's exclusive rights to new discoveries and technological innovations. In the digital era, patent protection challenges are closely related to the discovery and innovation of new software, algorithms and digital business methods. Patent regulations must adapt to developments in digital technology and ensure fair and effective protection for rights holders.
- c. Trademark. Trademark protection is important to prevent counterfeiting and brand impersonation online. Trademark laws should cover digital aspects such as domain names, online trademarks, and trademark-related online fraud. Digital brand protection should include strong law enforcement measures to combat counterfeiting and brand theft.
- d. Trade Secret. Trade secret rights protect information that has secret economic value, such as business formulas, intellectual property, marketing strategies, and confidential technology. In the digital era, attacks on trade secrets can take the form of hacking, data theft, or misuse of sensitive information. Trade secret protection laws must pay more attention to the vulnerabilities of the digital era and provide adequate sanctions for violations.
- e. Industrial Design. Industrial design protects the layout, form and aesthetics of industrial products. User interface (UI) design and web design have become important in protecting industrial design in the digital era.
- f. Software Patents. Software patents protect innovations and methods related to computer software. In the digital era, software patents play an important role in protecting innovation in the technology and software industry.
- g. Data Protection and Privacy Regulations. Regulations such as the General Data Protection Regulation (GDPR) in the European Union and the California Consumer Privacy Act (CCPA) in the United States ensure that consumers' personal data is protected and managed properly. Data protection and privacy have become increasingly important in the digital era with the amount of personal data stored and accessed online.
- h. Digital Millennium Copyright Act (DMCA) Application. The DMCA is a federal law in the United States that provides a legal framework for protecting copyright in the digital era. The DMCA affects how illegal content is removed or copyright violations are reported online.
- i. Related Rights. This includes rights relating to performances, recordings and broadcasts relating to the music, cinema and digital entertainment industries. As the distribution of digital entertainment increases, related rights become increasingly important in ensuring credit for artists and creators.
- j. Internet Traffic and Data Sharing. Legal aspects of intellectual property

protection are also related to data sharing and Internet traffic. Intellectual property protection must take into account digital file sharing regulations, net neutrality policies, and regulations protecting access to online content. Apart from that, the protection of intellectual property rights in the digital era also faces new challenges such as pirated software, distribution of illegal digital content, and piracy via the Internet which can cross regional borders.

Copyright Law in Indonesia, especially Article 1 paragraph (1) of Law Number 28 of 2014, has undergone significant changes. This revision provides a broader definition for copyright, covering works produced through various media, including digital. In addition, Article 15B states that the use of works through information technology and data transmission must be carried out with permission from the copyright holder, emphasizing the importance of permission in digital distribution. The importance of protecting patent rights is also reflected in the Law. Number 13 of 2016 concerning Patents. Article 21 paragraph (1) states that patent rights give the holder the exclusive right to make, use, sell and/or import their production results into Indonesia. However, challenges arise quickly in the digital era, where products and innovations can be easily replicated. Therefore, the government needs to continue to update regulations to ensure their relevance to technological developments. The Trademark Law, regulated by Law Number 20 of 2016, provides protection for business and product identities. Article 1 point 1 establishes the definition of a trademark, while Article 56 regulates criminal actions related to infringement of trademark rights. In the digital era, brand infringement often occurs through online commerce, so law enforcement must be adapted to this reality.

4.2 Legal Developments on Intellectual Property Rights

The rapid growth of digital technology has changed the intellectual

property landscape in Indonesia, requiring a dynamic and adaptive legal approach. In responding to these challenges, the Indonesian government has made a number of changes to the legal framework to provide more effective protection for intellectual property in the digital era. Law Number 28 of 2014 concerning Copyright has undergone significant revision. Article 1 paragraph (1) describes that copyright covers works produced through all types of media, including digital media. This increase reflects the changing landscape of creativity in the digital era, where work can be quickly and easily shared via online platforms. The importance of permission in the use of works through information technology and data transmission is regulated in Article 15B of the Copyright Law. This article emphasizes that any use of works through information technology and data transmission must obtain permission from the copyright holder. This creates a strong legal basis to protect copyright holders from illegal or unauthorized use in the digital environment.

Law Number 13 of 2016 concerning Patents is the basis for protecting technological innovation in Indonesia. Article 21 paragraph (1) states that patent rights give the holder the exclusive right to make, use, sell and/or import their production results into Indonesia. This revision of the law reflects the inequality of protection between patent holders and those who wish to use the innovation. However, the digital era brings new dynamics, where innovations can be quickly copied or modified online. Therefore, effective legal enforcement of patent rights in the digital era is crucial. Along with this, the implementation of Law Number 20 of 2016 concerning Trademarks has become an important part of the intellectual property legal framework in Indonesia. Article 1 point 1 of this law defines a brand as a sign that is transferable and can be used for goods or services. Article 56 regulates criminal actions related to trademark rights violations, confirming legal sanctions for acts that violate brands. In the context of the digital era, brand infringement often occurs in online

commerce, involving counterfeit or imitation products. Therefore, effective law enforcement in the digital realm is crucial in protecting brands and consumers.

It is important to note that changes in the legal framework are not the only solution. Public awareness of intellectual property is also a key component. Education campaigns and public awareness programs, in accordance with Article 2 paragraph (2) of Law Number 28 of 2014, must be an integral part of legal protection efforts. By increasing public understanding of the importance of respecting intellectual property rights, it can be hoped that there will be a cultural shift towards greater respect for creative and innovative rights. However, along with copyright protection efforts, the sustainability of innovation also lies in patent regulations. Law Number 13 of 2016 concerning Patents creates a legal framework that grants exclusive rights to patent holders. Article 21 paragraph (1) mandates that "patent rights give their holders the exclusive right to make, use, sell and/or import their production results into Indonesia." This revision of the law reflects the government's efforts to increase protection for technological innovation amidst the changing digital landscape. However, the challenge with the digital era is the ability to respond quickly and effectively to technological developments, ensuring that patents remain relevant and providing incentives for research and development.

Dispute resolution is also an integral part of intellectual property protection. Law Number 28 of 2014 provides a legal basis for resolving copyright disputes through Article 73 which states that "copyright dispute resolution is carried out through mediation, arbitration or justice in accordance with the provisions of statutory regulations." However, special challenges arise in enforcing judgments in the digital realm, where resources and jurisdiction can be constraints. It needs to be acknowledged that, apart from the regulatory side, cultural changes and public awareness are also important elements in ensuring the sustainability of intellectual

property protection in the digital era. Education and awareness campaigns, as mandated by Article 2 paragraph (2) of Law Number 28 of 2014, play a key role in shaping public attitudes towards copyrights, patents and brands. In this context, comparisons with successful international practices in dealing with similar challenges can also provide valuable insights. Whether it involves government and industry cooperation, the use of technology for monitoring and enforcement, or other approaches, learning from other countries' experiences can guide Indonesia's efforts to create an ecosystem that supports innovation and protects intellectual property.

So, the legal changes that occur within the framework of intellectual property protection in Indonesia reflect the government's efforts to adapt to the digital era. Although the law provides a legal basis, the real challenges lie in effective implementation, dispute handling, and enforcement in an ever-evolving digital environment. The involvement of all stakeholders, from government to society, is key to creating an environment that supports innovation and provides appropriate protection for intellectual property in the ever-evolving digital era. It is important to explore further the legal protection of intellectual property in Indonesia by considering additional related aspects, especially in the context of global dynamics and technological developments. Law Number 28 of 2014 concerning Copyright, Article 14, for example, regulates the economic rights of copyright holders which involve reproduction rights, distribution rights and transfer rights. Nowadays, with the increasingly widespread distribution of digital content, expanding and adapting these provisions has become a necessity. The exclusive power of copyright holders needs to be strengthened, especially in the digital sphere which presents new challenges for handling copyright infringement cases. Furthermore, in exploring current challenges, aspects of personal data protection related to intellectual property can be considered.

Although not directly related, personal data security in the digital era has become a major concern. Article 28B of the 1945 Constitution Amd. IV affirms everyone's right to self-protection against the collection, processing and use of personal data. In the context of intellectual property, especially in electronic commerce, the protection of personal data is essential because there is often a link between personal information and innovation or creative works.

4.3 Challenges and Implications of Legal Protection of Intellectual Property Rights

The main challenges in protecting IPR in the digital era are copyright infringement and digital content piracy. The Internet makes it possible to easily copy and distribute intellectual works without permission, to the detriment of creators and rights holders. This phenomenon has spread to various sectors, such as music, films, books and software. As a result, the economic losses incurred are very large, while incentives for innovation and creativity are reduced. Apart from that, data security and privacy are major concerns in this digital era. Digital identities and personal information become vulnerable to theft and misuse, causing financial loss and even threats to individual security. Legal protection of personal data is becoming increasingly important in the face of this threat.

One of the main challenges is copyright infringement and piracy of digital content. The Internet facilitates the rapid and widespread dissemination of intellectual works without permission, harming creators and rights holders and reducing incentives to continue to innovate. This phenomenon has spread to various sectors, from music and films to software and design. Apart from that, another challenge is data security and privacy. Digital identities and personal information become vulnerable to theft and misuse, resulting in financial loss and threats to individual security. Strong protection of personal data and privacy rights is becoming increasingly important in facing this threat (Siaga, 2020). In addition, global competition to obtain patent rights for new technological

innovations is also a big challenge. Technology companies compete to obtain patents on advanced technologies such as artificial intelligence, blockchain technology and autonomous vehicles. This competition can lead to complex and costly legal disputes.

Another challenge is the trade in counterfeit goods and trademark counterfeiting. The Internet enables the trade of counterfeit products quickly and on a large scale, to the detriment of brand holders and consumers. Effective trademark protection is critical in ensuring consumer trust and brand integrity. To overcome these challenges, strong and effective regulations are needed that can keep up with technological developments. Appropriate regulations must be designed to protect copyright, data privacy and trademarks, while ensuring room for innovation and economic growth. Apart from that, strict and efficient law enforcement is also needed to prevent and take action against IPR violations in this digital era. With a holistic approach involving government, industry and civil society, we can overcome these challenges and create an environment conducive to effective protection of IPR in the digital era.

1. The Importance of Defending Intellectual Property Rights: This case highlights the importance of defending and protecting intellectual property rights, especially trademarks and designs that differentiate a company from its competitors.
2. Intellectual Property Rights Awareness: It is important for companies and affiliates to increase awareness and understanding of intellectual property rights and the legal consequences of infringement.
3. Legal Settlement as a Solution: In case: In this case, the legal system provides a forum for resolving disputes. This shows that mechanisms exist to protect the rights and interests of a business.

Innovation as Competitiveness: Franchises that continue to innovate in products, services and outlet design have a competitive advantage in an increasingly tight market.

5. CONCLUSION

Based on the results of the research and discussion in the previous chapter, it can be concluded as follows:

Legal protection of intellectual property rights (IPR) in the digital era is a complex and vital issue that requires a holistic approach. Challenges include copyright infringement, data security, and global competition for patents and trademarks. Strong and effective regulations are needed to address these challenges without stifling innovation and economic growth. IPR protection in the digital era is a delicate balance between protecting the interests of creators and rights holders and facilitating the flow of ideas and innovation for the benefit of society as a whole. With the right steps,

including regulatory reform, effective law enforcement, public education, and international cooperation, we can create an environment conducive to sustainable development in this digital era.

Awareness of the importance of intellectual property rights must be increased through extensive educational campaigns and programs by increasing their understanding of copyright, patents, trademarks and industrial designs, individuals will play a greater role in respecting and protecting intellectual property rights in the digital era in addition to increasing awareness, protecting intellectual property rights in the digital era also requires improvements to existing legal regulations, regulations must be able to adapt to the evolution of digital technology by addressing new challenges such as rapid technological updates, protection of personal data and digital transactions. In this case, the government must be active updating and supplementing regulations to protect intellectual property rights.

REFERENCES

- [1] Blue and Gunawan. (2024). Legal Protection of Intellectual Property Rights in the Era of Industrial Revolution 4.0. *Scientific: Journal of Social Sciences and International Relations*, 1(1).
- [2] Karlina Sofyarto, (2018). "IPR Legal Protection of Traditional Knowledge on Economic Benefits", *Kanun Journal of Legal Sciences*, Vol. 20, Number 1.
- [3] Sulistianingsih, Adhi and Pujiono. (2021). Digitalization of Communal Intellectual Property in Indonesia.
- [4] Suryono, A. (2020). Copyright in Digital Works: A Study of Legal Perspectives in Indonesia".
- [5] *Rahardjo, Satjipto*, (2017). *Legal Studies*, Citra Aditya Bakti, Bandung. Page 3. 84.
- [6] Setiono. (2016). Analysis of investment feasibility and optimization of the composition of the number of house types to obtain optimal profits in the Perumnas Jeruk Palm Permai Karanganyar Aried. *Civil Engineering Matrix E-Journal*, 1238-1243.
- [7] Muchsin, (2015). *Legal Protection and Certainty for Investors in Indonesia*, Surakarta: Master of Laws, Sebelas Maret University Postgraduate Program.
- [8] Mastur, (2012). Legal Protection of Intellectual Property Rights in the Field of Patents, *Qisti Legal Science Journal*, Vol.6, No.1.
- [9] *Sufiarina*. (2015). "Priority Rights and Exclusive Rights in IPR Protection". *Journal. Tama Jagakarsa University Law*, 3 (2).
- [10] *Arikunto, S.* (2019). *Research procedure*. Jakarta: Rineka Cipta.