

A Legal Protection Study of Intellectual Property Rights Infringement Committed by the Artificial Intelligence

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Abstract. The advent of artificial intelligence has led to the development of sophisticated tools and systems that are capable of performing tasks that were previously the exclusive domain of humans. The utilization of AI in the context of intellectual property rights also raises questions regarding the ownership of the rights to the work produced by the AI system. The research uses a normative-juridical approach to examine AI's legal standing in intellectual property rights (IPR) enforcement and protection against AI-related infringements. It analyzes laws like the Electronic Information and Technology Act and the Copyright Act through statutory and conceptual approaches, aiming to clarify how current legal frameworks address AI's role in IPR and protect rights holders. The outcome of this study addresses the position of AI under Indonesian positive law concerning the enforcement of intellectual property rights protection, which lacks legal certainty. Consequently, it is imperative to impose specific limitations on the utilization of artificial intelligence in order to prevent infringement of registered intellectual property rights. The legal protection against intellectual property rights infringement by artificial intelligence encompasses both preventive and repressive measures.

Keywords: Intellectual Property Rights Law; Legal Protection; Artificial Intelligence

1 Introduction

The advent of artificial intelligence has led to the development of sophisticated tools and systems that are capable of performing tasks that were previously the exclusive domain of humans. However, the implications of artificial intelligence extend beyond the realm of technology. Indeed, artificial intelligence is entering domains that carry profound legal implications. The capacity for massively processing and analyzing data raises a number of questions for those working in the legal domain. These include considerations of individual privacy, system security, and legal liability, among others[1]. The advancement of artificial intelligence technology has permeated nearly all aspects of modern life. A multitude of artificial intelligence programs have emerged that have the capacity to enhance human workflows, spanning from translation apps to virtual assistants, and even applications capable of producing artistic works.

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Artificial intelligence is the most influential technologies anticipated to drive the fourth industrial revolution.[2] Artificial intelligence, in essence, refers to the development of machines that exhibit intelligent behavior. This intelligence enables machines to function effectively and with foresight, based on the characteristics of their environment. Nevertheless, our society is not yet fully prepared for this paradigm shift, as it will bring forth numerous legal and societal aspects that will undoubtedly become increasingly complex as robotic technology advances rapidly[3].

The rapid development of artificial intelligence has fundamentally transformed various industries, from manufacturing to creative sectors. artificial intelligence systems are now capable of generating innovative content, such as music, literature, and designs, and even creating inventions that were traditionally the domain of human creators. However, this technological advancement has raised critical questions about intellectual property rights (IPR), particularly in terms of ownership, authorship, and accountability. In many legal frameworks, including Indonesia's, intellectual property is designed to protect the rights of human creators, while the role of artificial intelligence in the creation and infringement of these rights remains largely unaddressed[4]. This gap in regulation presents significant challenges to IPR enforcement and legal protection, particularly when artificial intelligence autonomously creates or infringes upon intellectual property.

The evolution of law as a reform mechanism has been rapid, reflecting the dynamic nature of society. Even in the present era, new branches of law continue to emerge in response to the evolving needs of society. One such branch is intellectual property rights law, which has emerged as a prominent topic of discussion alongside the advent of artificial intelligence. The field of Intellectual Property Rights Law emerged as a consequence of the necessity to safeguard the intellectual property belonging to the creator. This is due to the fact that intellectual property rights are personal property, which can be owned and treated in the same manner as other forms of personal property.[5]

In the context of intellectual property, intellectual property rights refer to the authorization or power to do something with intellectual property. This may be constrained by the applicable laws and norms. Intellectual property rights are included in the category of immaterial rights, which are defined as intangible objects. This is because intellectual property rights originate from ideas, imagination and thoughts of the mind. The genesis of intellectual property rights is found in the ideas, imaginations and thoughts that originate from the human mind. The term 'intellectual property rights' was first used to translate the legal system and subsequently evolved into the current definition.[6]

The legal standing of artificial intelligence in IPR enforcement is one of the core issues that this study seeks to explore. Current intellectual property laws in Indonesia, such as the Copyright Law and Patent Law, do not explicitly recognize artificial intelligence as a legal entity capable of holding rights or obligations. This leaves a significant legal vacuum when artificial intelligence systems independently create works or inventions. Under existing laws, the ownership of such creations is typically attributed to the developers or operators of the artificial intelligence, rather than the artificial intelligence itself. However, as artificial intelligence systems become increasingly autonomous and sophisticated, the traditional notion of authorship and accountability becomes more complex. This study aims to analyze how Indonesian law currently addresses these issues and whether reforms are needed to better accommodate artificial intelligence's role in IPR enforcement.

Another critical issue examined in this research is the legal protection against IPR infringement committed by artificial intelligence. With artificial intelligence's growing capability to autonomously generate content, there is an increased risk of artificial intelligence systems infringing on existing intellectual property without human intervention. For example, artificial intelligence can easily replicate copyrighted works or produce content that closely mimics existing inventions, potentially violating the rights of original creators.

In Indonesia, legal protection against such infringements is primarily designed for human actors, with penalties and remedies aimed at individuals or corporations. This research investigates whether current laws are sufficient to address artificial intelligence-driven infringements and what legal frameworks can be developed to protect intellectual property holders in the age of artificial intelligence. The study seeks to determine how the legal system can balance innovation in artificial intelligence technology with the protection of intellectual property rights, ensuring that both technological progress and creators' rights are safeguarded.

The advent of artificial intelligence has given rise to considerable legal complexities, particularly with regard to intellectual property rights. Artificial intelligence frequently employs the creative output or cognitive processes of individuals to fulfil user requests or generate new content. This practice gives rise to complex issues concerning the ownership, protection and attribution of intellectual property. In instances where artificial intelligence autonomously generates new creations or modifies existing ones based on human input, determining the appropriate ownership becomes a critical issue. Therefore, this article examines two research questions: firstly, how is the legal standing of artificial intelligence in intellectual property rights enforcement; and secondly, how is legal protection of intellectual property rights infringement committed by artificial intelligence.

2 Methods

The research employed is of the normative-juridical variety, focusing on the legal standing of artificial intelligence in intellectual property rights (IPR) enforcement and the legal protection available when artificial intelligence infringes upon these rights.[7] The research utilizes both a statutory approach, analyzing relevant laws and regulations, and a conceptual approach, exploring theoretical frameworks surrounding artificial intelligence and its impact on IPR. Through these approaches, the study aims to clarify how current legal structures address artificial intelligence's involvement in IPR infringement, and the extent of protection afforded to rights holders. The primary materials used are the Electronic Information and Technology Act and the Copyright Act, which are then subjected to a systematic interpretation and theological interpretation.[8]

3 Discussion and Analysis

3.1 Legal Standing of Artificial Intelligence in Intellectual Property Rights Law Enforcement

The legal subject is of fundamental importance in legal actions; thus, it is essential to determine which entities qualify as legal subjects at the outset of such actions. Once the classification of legal subjects has been determined, it will be possible to address the question of how artificial intelligence is held accountable for its actions and legal conduct in the era of the Fourth Industrial Revolution.[9] The capacity of artificial intelligence technology to perform activities and act similarly to humans makes it evident that legal regulations in a country are necessary to establish rules that are highly relevant to artificial intelligence.

One of the primary legal issues surrounding artificial intelligence in IPR enforcement is the question of authorship and ownership. In traditional intellectual property law, authorship is attributed to human creators who produce original works, whether in the form of literature, art, inventions, or technological innovations. However, artificial intelligence systems, particularly those equipped with machine learning capabilities, can generate creative outputs independently. These creations challenge the fundamental notion of human authorship, raising the question of who holds the legal rights to works created by artificial intelligence.

Under current Indonesian law, there is no legal recognition of artificial intelligence as a person or entity that can hold intellectual property rights. Instead, ownership is typically attributed to the person or organization responsible for programming or operating the artificial intelligence, even if their involvement in the creation process was minimal. This legal gap presents a challenge for defining the rights and responsibilities in cases where artificial intelligence-generated works are commercialized or infringed upon.

Based on the current legal sources in Indonesia related to technology regulations, Law Number 1 of 2024 concerning Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions, Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions serves as a regulation that responds to the rapid technological developments in Indonesia. These laws, however, do not anticipate the rise of autonomous systems like artificial intelligence, which are capable of creating works without direct human input, thus creating a legal gap in terms of how artificial intelligence's involvement is treated under intellectual property law. In order to provide legal clarity and utility in the process of resolving technology-related issues, it is hoped that the ITE Law itself will be able to address all issues related to technology and information systems in Indonesia. However, due to the fact that the ITE Law does not include a clear definition of artificial intelligence in its regulations, many individuals attempt to interpret artificial intelligence and establish connections between artificial intelligence and the rules contained in the ITE Law.[10]

Artificial intelligence is the simulation of human intelligence replicated in machines and programmed to operate similarly to humans. McLeod and Schell define artificial intelligence as the utilization of machines, such as computers, that exhibit intelligent human-like behavior. In this regard, artificial intelligence may be defined as a computer system that is capable of performing tasks that would normally require the input of human operators. Artificial intelligence is able to collect and utilize data in order to expand its understanding and to correct its own errors automatically.[11] It is of paramount importance to establish regulations governing the use of artificial intelligence technology in order to ensure its responsible deployment and to protect individuals and society. Nevertheless, the formulation of effective regulations is a challenging endeavor, given the rapid evolution of artificial intelligence and the resulting legal uncertainty.

Existing regulations frequently lack the requisite flexibility and specificity to address the challenges presented by artificial intelligence advancements. This has resulted in inconsistent interpretations and potential loopholes. To overcome these challenges, it is imperative that governments and relevant agencies adapt their regulations to keep pace with technological advancements and ensure their applicability across various industries and contexts. This necessitates a collaborative effort between legal experts and technologists to develop comprehensive and adaptable frameworks that strike a balance between promoting innovation and safeguarding societal well-being. Ultimately, it is essential that regulations are robust and well-designed in order to prevent the misuse of artificial intelligence technology, to protect individual rights, and to ensure that it is used responsibly and ethically.

The concept of legal certainty prioritizes the existence of the regulation itself. In order for a regulation to be just, it must also be beneficial. However, the value of prioritizing legal certainty is not contingent upon the value of justice or benefit.[12] The concept of legal certainty encompasses two distinct meanings. The first is general certainty, which ensures that individuals are aware of the actions that are permitted and prohibited. The second is legal certainty, which provides legal security for individuals from government arbitrariness.[13] The existence of general rules enables individuals to understand the things that are permitted or prohibited by the state. The theory of legal certainty underscores the importance of clarifying rules and provisions, especially concerning the misuse of intellectual property rights by artificial intelligence.

In the realm of artificial intelligence technology, where autonomous systems can create, reproduce, or distribute intellectual property rights content without direct human intervention, issues of intellectual property rights ownership and responsibility become complex. Clarity in regulations is essential to determine who holds the rights to artificial intelligence-generated works, how these rights are enforced, and the liabilities of artificial intelligence developers, users, and content distributors in cases of intellectual property rights infringement. Thus, ensuring legal certainty in intellectual property rights laws is crucial for addressing the challenges posed by artificial intelligence's capabilities in creating and using intellectual property rights material.

In Indonesia, intellectual property rights are regulated in Law No. 28 of 2014 concerning Copyright. The 2014 Law No. 28 on Copyright delineates the subjects of copyright, namely the Creator and the Copyright Holder. The focus of copyright law is on the creator and the ownership of copyright. In order to be afforded protection, a creator must fulfil certain qualifications, including a clear identity and status. A creator is defined in Article 1, paragraph 2 of the Act as a person or group of persons who individually or collectively create a unique and personal work. In accordance with Article 1, paragraph 4 of the Act, copyright holders are defined as the creator who is also the owner of the copyright, the party who legitimately receives such rights from the creator, or other parties who receive such rights from the aforementioned legitimate recipient.

Those with an interest in law are those who espouse the values of rights and obligations. These individuals can be classified into two categories: those who are human beings and those who are legal entities such as companies, organizations and bodies. In the view of Abdulkadir Muhammad, the subject of law is the supporter of rights and obligations. Those who espouse these rights and obligations are designated as "persons." In the context of legal theory, the term "person" encompasses both individuals and legal entities. In a biological sense, human individuals are subject to the law as a phenomenon of nature and as a cultural being who possesses reason, feelings, and will. In the context of legal theory, legal entities are regarded as legal subjects in the sense that they are a symptom of social life. They are also regarded as a body of human creation based on law, which is imbued with rights and obligations similar to those of individual human beings.[14]

Therefore, it can be concluded that under intellectual property rights law, the legal subjects referred to as "subjects of law" based on the intellectual property rights Law are Creators and intellectual property rights Holders, who can be individuals or legal entities. Although there are two kinds of legal subjects, namely individuals and legal entities, but in the context of intellectual property rights, the legal subject is often an individual. This indicates that the position of artificial intelligence is not a subject of positive law in Indonesia. The lack of legal certainty surrounding the regulation of artificial intelligence, coupled with its increasing use, renders it unable to be held legally responsible in the same manner as humans or entities recognized by law.

In civil law, artificial intelligence can be considered analogous to workers and can also be analogous to animals, as interpreted in Article 1367, paragraphs (1) and (3) of the Civil Code. This broadly means that a person is liable not only for damages caused by their own actions, but also for damages caused by those for whom they are responsible or by goods under their supervision. In addition, employers and those who appoint others to represent their affairs are held liable for damages caused by their servants or subordinates in the course of performing work for the benefit of the employer or authorizer. In other words, if artificial intelligence perpetrates an unlawful act or causes harm to another party, the responsibility for redressing the damage will fall upon the entity that owns or oversees the artificial intelligence.[15] Consequently, it is imperative to impose specific limitations on the utilization of artificial intelligence in order to prevent infringement of registered intellectual property rights. Clearly, the advances in artificial intelligence impact the existing societal

laws, particularly if human beings treat artificial intelligence in the same manner as human beings, by assigning it responsibility for criminal acts committed, which aligns with the legal principle that all individuals are considered equal before the law.[2]

Another aspect of the legal standing of artificial intelligence in intellectual property enforcement relates to liability for infringement. If an artificial intelligence system autonomously replicates or creates content that infringes on existing intellectual property rights, the question arises as to who is held accountable for this infringement. Since artificial intelligence does not have legal personhood, it cannot be held liable for its actions. In most cases, liability falls on the human actors behind the artificial intelligence, such as developers, operators, or the entities that use the artificial intelligence system commercially. However, this approach can be problematic in situations where the artificial intelligence's actions were not foreseeable or directly controlled by these parties. This issue highlights the need for a more nuanced legal framework that addresses the unique nature of artificial intelligence and its potential to act independently in ways that impact intellectual property.

The absence of clear legal guidelines on artificial intelligence's role in intellectual property enforcement also raises broader questions about innovation and the protection of creators' rights. On one hand, artificial intelligence technologies are advancing creativity and innovation by enabling new forms of content creation and problem-solving. On the other hand, without proper legal safeguards, the use of artificial intelligence in these processes could undermine the rights of human creators by blurring the lines of ownership and responsibility. For instance, if artificial intelligence-generated works are granted the same protections as human-created works, it may become difficult to distinguish between original works and those produced by machines. This could lead to disputes over originality, authorship, and infringement, making it harder for human creators to defend their intellectual property rights in a world increasingly dominated by artificial intelligence-generated content.

3.2 Legal Protection of Intellectual Property Rights Infringement Committed by Artificial Intelligence

All forms of development exert a net positive effect on the global economy; however, this does not preclude the existence of associated negative consequences. The advent of artificial intelligence has brought about a plethora of beneficial consequences. Nevertheless, this technology also has an adverse effect, which is occasionally indirect and imperceptible.[16] Artificial intelligence is a technology that takes the form of a machine. It has been developed with the knowledge of human thinking and is capable of performing human thinking procedures. The advent of artificial intelligence has prompted concerns about its potential to perform activities in a manner that may encroach upon human domains.[17] Artificial intelligence has the capacity to undertake legal actions or legal acts that are analogous to those that can be performed by humans. However, in the process of imitation, which is a core aspect of artificial intelligence, violations frequently occur, including violations of intellectual property rights.

One of the key issues in providing legal protection against artificial intelligence-driven infringement is determining who is liable when an artificial intelligence system violates intellectual property rights. Since artificial intelligence lacks legal personhood, it cannot be held accountable for its actions. As a result, the responsibility typically falls on the developers, operators, or users of the artificial intelligence system. However, this approach is not always straightforward. artificial intelligence systems, particularly those utilizing machine learning, can make decisions and generate outputs that were not anticipated by their developers or users. This unpredictability complicates the assignment of liability, as it becomes unclear whether the human actors involved should be held responsible for the artificial intelligence's actions. In cases where the artificial intelligence's infringement was

unintentional or unforeseeable, it raises the question of how to effectively enforce intellectual property rights while maintaining fairness for those managing or using artificial intelligence systems.

According to Rachmadi Usman, the term "ownership" is more appropriate than "property" when used in relation to these two terms. This is because the concept of ownership is more precise than property. In civil law systems, the law concerning wealth or property rights encompasses both property law and the law of obligations. Intellectual Property Rights constitute intangible property that also falls under ownership as defined in property law.[18] The ownership of property, including intellectual property rights, is subject to strict legal regulation. Intellectual property rights encompass a range of legal protections, including copyrights, patents, trademarks, trade secrets, and industrial design rights.

These rights are subject to legislative regulation, with the aim of safeguarding the interests of their respective owners. The aforementioned legal protection is of significant importance in order to encourage innovation, creativity, and investment in a multitude of fields, including technology, the arts, and industry. The legislation pertaining to intellectual property rights typically safeguards the proprietor of said rights from any unauthorized utilization, replication, or misappropriation of their intellectual creations or products. With these legal safeguards in place, those who possess intellectual property rights can more readily develop novel concepts, create artistic works, or develop innovative products, as their rights are legally protected from actions that could financially or reputedly disadvantage them.

The term "legal protection" encompasses a range of measures designed to safeguard the rights of witnesses and/or victims, and to ensure their safety. These measures may be implemented in various forms, including restitution, compensation, medical services, and legal aid. The legal protection afforded to legal subjects takes the form of both preventive and punitive measures, which may be oral or written. In other words, legal protection can be described as a separate representation of the function of law itself. This concept holds that law provides justice, order, certainty, utility, and peace.[19]

All individuals who formally document their intellectual property are driven by a desire to secure legal protection for said creation. In the event that a work has been registered, the registration letters issued by the Directorate General will serve to more readily establish the identity of the creator. In accordance with Article 31 of the 2014 Law No. 28 on Copyright, a person whose name is listed in the General Register of Creation is deemed the creator, unless evidence to the contrary is provided by another party. Consequently, it will be more challenging and time-consuming to substantiate the copyright of an unregistered creation. The aforementioned Article 31 of the 2014 Law No. 28 on Copyright also provides evidence that Indonesia has adopted a declarative registration system.

In accordance with Indonesian copyright legislation, the copyright registration system is characterized by a passive registration process. This implies that all applications for registration are accepted without prior investigation into the applicant's rights, unless there is clear evidence of copyright infringement. The act of copyright registration does not in itself constitute proof of copyright; rather, it serves to facilitate proof in the event of a future dispute. The initial registration of a copyright may not necessarily confer legitimate ownership of the intellectual property rights. In the event that other evidence exists to prove otherwise, the legitimacy of a copyright registration can be challenged.[20] According to Phillipus M. Hadjon, legal protection for the people is a preventive and responsive government action. The objective of preventive legal protection is to preclude the occurrence of disputes. Consequently, government action must be prudent and discretionary, and responsive legal protection is designed to avert disputes and address them in a judicial context.[21]

In order to obtain legal protection for one's copyright, it is necessary to register the work in question with the relevant authorized institution. In this case, the Directorate General of

Intellectual Property must be approached for registration. This registration serves to provide concrete evidence of the person's status as the legal owner of the work, while simultaneously setting the date of creation of said work for purposes of establishing a legal precedent. In the event of a future dispute, the appropriate legal protection is to utilize evidence of copyright registration in order to resolve the legal dispute. This evidence of registration serves to reinforce the assertion that the individual in question is the rightful proprietor of the copyright, in the event that this is disputed.

In Indonesia, there is no specific and clear regulatory framework pertaining to artificial intelligence. This presents a potential legal challenge in the future, should artificial intelligence technology engage in legal actions that contravene the stipulations of the prevailing positive law in Indonesia. The capacity of artificial intelligence to perform an action is the key criterion for its classification. It is therefore not implausible that artificial intelligence may engage in legal acts comparable to those carried out by humans.[22]

The implementation of misuse of artificial intelligence as a form of unlawful act, both civilly and criminally, can be analyzed based on legal protection theory for society in Indonesia. Generally, legal protection theory aims to safeguard the rights and interests of society from harmful actions. Legal protection encompasses aspects such as safeguarding human rights, protecting human dignity, recognizing individual rights under applicable law, and efforts to create order in societal interactions among humans. Therefore, legal protection aims to ensure that individuals have sufficient protection of their rights and promote justice within society. The current development of information technology has made the world borderless and led to significant social changes. Information technology can serve as a double-edged sword: it can help improve societal welfare and advance human civilization, but it can also be used for criminal activities.[23]

As previously stated, artificial intelligence is not a legal subject in positive law in Indonesia, as defined by the ITE Law. An artificial intelligence system can be defined as an electronic system and electronic agent. However, it is important to note that all actions and operations carried out by such a system are ultimately based on instructions from humans. In the context of the ITE Law, these instructions are provided by the electronic system organizer, which consists of several legal subjects. In light of the aforementioned considerations, it is evident that artificial intelligence cannot be regarded as an autonomous legal entity or analogous to other legal subjects. In the event of an individual committing an act of copyright infringement, it is not possible for artificial intelligence to act as a legal subject. Thus far, the use of artificial intelligence has been carried out at the behest of a legal subject, namely humans. It is therefore evident that artificial intelligence lacks the capacity to understand the meaning of a result, to determine its own will to perform an act, and to act with awareness in the context of a legal act.

When considering criminal law liability within the context of perpetrators of criminal offenses, there must be an element of awareness, knowledge, and the ability to determine the will behind an individual's actions.[24] In the case of artificial intelligence, there is a distinct lack of awareness, with actions primarily based on instructions and limited in their capacity to discern the intent and purpose of the entity that created them. In contrast, individuals with knowledge of the actions of artificial intelligence are, in fact, the users of such technology. Consequently, in the event that artificial intelligence perpetrates an infringement of copyright that causes harm to third parties, if it can be established that the user of the artificial intelligence bears responsibility for the infringement, then the user of the artificial intelligence, that is to say the party who ordered the artificial intelligence, can be held fully liable.

The traditional legal frameworks designed for human creators may prove inadequate in accommodating the unique capabilities and implications of artificial intelligence. Consequently, there is a pressing need to develop new legal approaches that can effectively

manage and regulate the impact of artificial intelligence on intellectual property. The necessity of ensuring fair compensation and safeguarding the rights of original creators in the context of artificial intelligence's increasing autonomy in creative processes further complicates the legal landscape. As artificial intelligence technology continues to advance, it will become increasingly important to navigate the intersections between artificial intelligence and intellectual property law in order to foster innovation while maintaining equitable and ethical standards in intellectual property rights management.

The potential for artificial intelligence to infringe upon intellectual property without human intervention also poses challenges for traditional enforcement mechanisms. Infringement cases typically involve identifying the infringing party, assessing damages, and applying appropriate legal remedies. However, when artificial intelligence is involved, identifying the party responsible for the infringement becomes more complicated. For example, if an artificial intelligence system autonomously generates a work that closely resembles an existing copyrighted piece or creates an invention that violates an existing patent, traditional methods of proving intent and assigning fault may not apply. This raises concerns about the effectiveness of current enforcement strategies in addressing artificial intelligence-related infringement and highlights the need for legal reforms to better protect intellectual property rights in an artificial intelligence-driven world.

Another aspect of legal protection against artificial intelligence-driven infringement involves the remedies available to rights holders. Under Indonesian law, intellectual property owners can seek damages, injunctions, or other legal remedies in cases of infringement. However, these remedies are typically designed to address human actions and may not be fully effective in cases involving artificial intelligence. For instance, if an artificial intelligence system continually generates infringing works, obtaining an injunction against a human operator may not stop the artificial intelligence from continuing its activities. This issue underscores the need for more tailored legal tools that can effectively address the unique challenges posed by artificial intelligence systems. As artificial intelligence technologies evolve, legal frameworks must also adapt to ensure that intellectual property owners have the means to protect their rights against infringement, even when the infringing party is not a human actor.

Furthermore, the global nature of artificial intelligence technologies complicates the enforcement of intellectual property rights across jurisdictions. Many artificial intelligence systems operate on international platforms, making it difficult to apply local intellectual property laws to infringement cases. For instance, if an artificial intelligence system developed in one country generates content that infringes on intellectual property rights in another, it may be challenging to pursue legal action under the laws of the affected jurisdiction. This cross-border complexity adds another layer of difficulty in providing adequate legal protection against artificial intelligence-driven infringement and calls for international cooperation in developing consistent legal standards for artificial intelligence and intellectual property.

4 Conclusion

The utilization of artificial intelligence in the context of intellectual property rights also raises questions regarding the ownership of the rights to the work produced by the artificial intelligence system. The regulation of artificial intelligence in Indonesian legislation is not specifically addressed in the ITE Law. The definition of artificial intelligence provided in this legislation refers only to an electronic system and/or electronic agent. Therefore, artificial intelligence is not recognized as a legal subject in Indonesia. In the event that artificial intelligence infringes upon the law, the party responsible for this violation will be held

accountable under either civil or criminal law. In these instances, it is the individual or entity that instructed the artificial intelligence to engage in the illicit act that bears liability.

In the context of infringements of intellectual property rights perpetrated by artificial intelligence, the proprietor of the intellectual property in question is afforded both preventive and responsive legal protection. The former is achieved through the registration of the relevant creation with the relevant authority in accordance with the pertinent legislation and regulations, while the latter is accomplished through the filing of a lawsuit in a court of law accompanied by evidence substantiating the proprietor's ownership of valid intellectual property rights. In instances where artificial intelligence infringes upon intellectual property rights, the party held responsible is the party that ordered the artificial intelligence to engage in the unlawful acts in question.

The lack of clear regulations regarding artificial intelligence's role in intellectual property infringement, coupled with difficulties in assigning liability and enforcing traditional legal remedies, highlights the need for legal reforms. As artificial intelligence continues to advance and play a larger role in the creation of content and inventions, it is crucial for legal frameworks to evolve in order to provide effective protection for intellectual property rights. This will require a combination of domestic legal reforms and international cooperation to ensure that intellectual property law keeps pace with technological innovation, safeguarding the rights of creators in the age of artificial intelligence.

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