

INTELLECTUAL PROPERTY PROTECTION FOR WORKS CREATED BY AI

New Challenges in Determining Legal Subjects

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Abstract

The advancement of artificial intelligence (AI) has transformed the creation of creative works, raising new legal challenges in the protection of intellectual property rights (IPR). A key issue is identifying the rightful legal subject of AI-generated works, as traditional IPR frameworks recognize only humans or legal entities as copyright holders. This article analyzes the civil law implications of AI-created works, focusing on copyright ownership and the legal status of AI. Using a comparative approach, it examines relevant regulations in the UK, US, and EU, and provides recommendations for updating Indonesia's legal system. The research aims to deepen the understanding of the intersection between technology and IPR, offering insights for policymakers and legal practitioners.

Keywords: *Artificial Intelligence (AI), Intellectual Property Rights (IPR), Copyright, Legal Subject*

A. INTRODUCTION

In recent years, artificial intelligence (AI) has experienced rapid development and brought about major changes in various fields, including the creative industry. AI is now used not only for automation and efficiency purposes, but also to create creative works such as music, digital art, images, and even writing. These works, which were previously created entirely by humans, can now be produced by complex algorithms, with little or no human intervention.¹ This raises new challenges in the world of Intellectual Property Rights (IPR), particularly regarding the determination of who holds the copyright to works created by AI.² Traditionally, copyright is granted to the creator of the work, defined as the individual or legal entity that possesses originality in creating the work.³ Thus, the question arises: who can be considered the “creator” in the context of works generated by machines? Can works entirely created by AI be granted copyright, and if so, who is entitled to hold those rights? Should the copyright be granted to the AI developer, the user who utilizes the AI, or another party involved in the creation process?

This phenomenon reveals a mismatch between existing legal systems and the rapidly evolving reality of technology. Most current IPR legal systems are based on the premise that the creator is a human individual with the capacity to create works with originality and creativity.⁴ However, with the emergence of works entirely generated by AI, there is uncertainty regarding whether AI itself can be recognized as a valid legal entity or whether other parties involved in the use of AI should be granted recognition of such copyright. This issue is not only relevant from a legal theory perspective but also

¹ Ryan Abbott, *The Reasonable Robot: Artificial Intelligence and the Law* (Cambridge: Cambridge University Press, 2020), 3.

² Annemarie Bridy, “AI and the Problem of Copyright Authorship,” *Fordham Law Review*, vol. 79, no. 2 (2010), hlm. 403.

³ Paul Goldstein and P. Bernt Hugenholtz, *International Copyright: Principles, Law, and Practice*, 3rd ed. (Oxford: Oxford University Press, 2019), 220.

⁴ Krassen Hristov, “Artificial Intelligence and the Copyright Dilemma,” *North Carolina Journal of Law and Technology*, vol. 7, no. 3 (2016), 102–103.

presents urgent practical challenges. Without clear legal provisions, parties involved in the creation and utilization of AI works, including software developers, technology users, and digital platforms, risk facing problems in terms of transfer of rights, licensing, and protection against copyright infringement. In this context, the protection of works generated by AI is not only related to who is entitled to the work, but also to how those rights can be maintained and protected in an increasingly connected digital world.⁵

Several countries have begun to formulate policies related to works produced by AI. In the United States, for example, the Copyright Office has clarified that works produced entirely by computers, without human involvement, cannot be protected by copyright. Conversely, in the United Kingdom, copyright regulations state that for works produced by computers, copyright will be granted to the individual or entity that controls the creation of the work. In the European Union, although this debate is still ongoing, there is a push to adapt copyright laws to accommodate the role of technology in the creation of works.⁶ However, in Indonesia, although there is a law governing copyright, namely Law No. 28 of 2014 on Copyright, there are no specific provisions governing works produced by AI. This ambiguity creates legal uncertainty that could hinder the development of the creative and technology industries in Indonesia. Therefore, it is crucial to formulate clearer regulations regarding who is entitled to the copyright of works produced by AI and how the mechanism for protecting intellectual property rights over such works can be applied.

In addition to the civil law aspects related to ownership and transfer of copyright, this issue also has broader implications in terms of legal liability and accountability for copyright infringement. Who is responsible if AI works infringe on the copyright of others? How should royalties or economic benefits from AI works be distributed? These issues demand serious attention from policymakers, legal

⁵ Daniel J. Gervais, "The Machine as Author," *Iowa Law Review*, vol. 105, no. 5 (2020), 2104.

⁶ Eleonora Rosati, "Originality in EU Copyright Law," *International Review of Intellectual Property and Competition Law*, vol. 46, no. 5 (2015), 538.

practitioners, and technology developers to formulate fair policies that protect all parties involved.

This article aims to analyze the challenges faced in protecting intellectual property rights over works generated by AI, with a focus on determining the valid legal subject in the context of civil law. This research will discuss regulations in several countries that have begun to address this issue and offer policy recommendations that can be applied in Indonesia to ensure the legal system remains relevant to technological advancements. Thus, this article is expected to contribute to a deeper understanding of the dynamics of intellectual property rights in the digital age and provide practical insights into the steps that policymakers and legal practitioners need to take in responding to this phenomenon.

B. RESULTS AND DISCUSSION

1. Determining Legal Subjects in Intellectual Property Rights Protection for Works Produced by AI

The creation of works produced by artificial intelligence (AI) has a significant impact on intellectual property rights (IPR) protection, particularly copyright.⁷ As a legal system that regulates rights to creative works, traditional copyright law stipulates that the copyright holder is an individual or legal entity that produces works based on personal creativity and effort. In this context, copyright law recognizes humans as valid legal subjects who can hold exclusive rights to their creations.⁸ However, the main question arises when these works are no longer entirely created by humans, but rather by algorithms controlled and executed by AI technology. This raises confusion and challenges in determining who is entitled to be the “creator” of such works.

Historically, copyright protection in many legal systems around the world, including Indonesia, has prioritized “human creators” as the holders of copyright over the works produced. In the copyright

⁷ Catalina Goanta and Martin Ebers (eds.), *Contracting and Contract Law in the Age of Artificial Intelligence* (Oxford: Hart Publishing, 2021), 45.

⁸ Lionel Bently and Brad Sherman, *Intellectual Property Law*, 5th ed. (Oxford: Oxford University Press, 2018), 120–121.

legal system applied, for example, in Law No. 28 of 2014 on Copyright in Indonesia, it is stated that copyright is granted to the “creator,” defined as an individual or legal entity that, through their capacity, produces an original work. Thus, the creator of a work is an individual or entity that possesses the creativity and effort to produce a work considered new and original.

This understanding, while clear in the context of works created by humans, becomes problematic when it comes to works entirely created by AI systems. At this point, the main issue is that no human individual actively participates in the creation of such works. AI operates based on algorithms and programming prepared by its developers, but without direct human involvement in the creative process.⁹ Therefore, the creation of works by AI raises fundamental questions about who should be considered the copyright holder—whether it is the AI developer, the technology user, or whether there is a need to formulate a new legal subject that can represent the machine as the creator.

Internationally, several countries have attempted to address this issue by formulating policies or legal interpretations that are more in line with rapid technological developments. In the United States, for example, the Copyright Office issued a decision stating that works produced entirely by computers or machines without human involvement cannot be protected by copyright.¹⁰ Under this policy, it is clear that copyright is not granted to non-human entities (in this case, AI), as copyright is recognized as being granted only to human individuals involved in the creative process. This reflects the firm stance that copyright is directly tied to human legal subjects.

The United Kingdom has a slightly different approach. Under the UK Copyright Act, if a work is generated by a computer, copyright in that work is granted to the person or entity directing the creation of the work usually the developer or owner of the AI used to create the work. In this context, even though AI performs most of the creative work, the human or legal entity controlling and regulating

⁹ Pamela Samuelson, “Allocating Ownership Rights in Computer-Generated Works,” *University of Pittsburgh Law Review*, vol. 47, no. 6 (1986). 13

¹⁰ U.S. Copyright Office, *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence*, March 2023.

the use of AI technology is considered the legitimate creator and thus entitled to the copyright.¹¹

This approach provides a temporary solution, but it still raises further debate about the limits and criteria for who should be considered the “director” or “controller” of works generated by AI. The issue becomes even more complicated when considering the role of AI technology users who are not always involved in the development or programming of AI, but may have control or influence over how AI is used.¹² In the European Union, although regulations regarding works produced by AI have not yet been fully adapted, there has been a push to formulate clearer rules. EU member states have held discussions on how the copyright legal system should accommodate works produced by machines, with some parties proposing that copyright be granted to the party responsible for the development or use of AI, namely the developers or companies that produce the AI software.¹³

2. Adjustments to the Indonesian Legal System

Indonesia, which also adheres to a human-based copyright system, needs to adopt similar solutions to respond to the challenges posed by AI-generated works. Although Law No. 28 of 2014 on Copyright regulates copyright for works produced by individuals or legal entities, there are no provisions that explicitly regulate works produced by advanced technologies such as AI.¹⁴ This ambiguity naturally creates legal uncertainty that can hinder the development of technology-based creative industries and harm parties involved in the development and utilization of AI.

The most urgent adjustment is to formulate provisions that recognize the party controlling or using AI as the copyright holder of works produced by AI. Given that AI development involves human

¹¹ United Kingdom Copyright, Designs and Patents Act 1988, Section 9(3).

¹² Jani McCutcheon, “The Vanishing Author in Computer-Generated Works,” *Melbourne University Law Review*, vol. 36, no. 2 (2012). 16

¹³ Niva Elkin-Koren, “Algorithmic Copyright Enforcement,” *Columbia Journal of Law & the Arts*, vol. 39, no. 3 (2016). 12-13

¹⁴ Misra Hidayani Napu, “Towards a Better Regulation of Indonesia’s Public Access to Information,” Master Thesis, Tilburg University, 2011. 67

effort in the form of programming and management, there is a strong argument that copyright over AI works should be granted to the developers or companies that create or operate the AI.¹⁵ Thus, even though AI creates the work, the human party that has control over the AI can still be recognized as the copyright holder. However, this is not without practical and ethical challenges, such as how to identify who has the most control or influence in the process of creating the work. On the other hand, it is also important to ensure that no party takes unfair advantage of the work produced by technology, given the collaborative and complex nature of much of today's technological development.

Further issues arise in relation to the transfer of copyright and licensing of works generated by AI. In traditional copyright law systems, copyright can be transferred or licensed by the copyright holder to another party.¹⁶ However, when the transfer of copyright relates to works generated by AI, the issue of who has the right to transfer copyright and how royalties or profits from the work should be divided among the parties involved becomes very complicated. This depends heavily on who is considered the “creator” in the process of creating the work—whether it is the AI developer who designed and developed the algorithm, the user who provided input and directed the AI, or another entity that may have control over the use and distribution of the work.¹⁷ For example, if the AI generates it with little or no human intervention, who is entitled to receive royalties from the work? Is it the AI developer who created the software and algorithms, or the AI user who operated the system to generate the work? In this case, even human involvement in the creative process becomes a blurred question, given that AI can function independently in generating works.

It is important to consider that in this scenario, the distribution of royalties and other benefits becomes very complicated. Who

¹⁵ Peter K. Yu, “Human Authorship in an Era of Generative AI,” *Washington Law Review*, vol. 99 (2024). 15

¹⁶ Guido Noto La Diega, “Artificial Intelligence and Intellectual Property: A Literature Review,” *International Journal of Law and Information Technology*, vol. 26, no. 3 (2018). 14-15

¹⁷ Lawrence Lessig, *Free Culture: The Nature and Future of Creativity* (New York: Penguin Press, 2004). 56

should receive a share—the hardware and software developers, the end users, or even the company that owns the technology—is an issue that must be addressed promptly by the legal system.¹⁸ Without clear rules regarding the legal subject of works generated by AI, mechanisms for transferring copyright or granting licenses will be difficult to apply fairly. This could lead to complex legal disputes related to the management of AI works, distribution rights, and regulations related to the economic exploitation of such works. For example, if a work generated by AI is used commercially by another party, but there is no clarity regarding who owns the copyright, this could lead to overlapping claims and result in larger legal issues.¹⁹

These difficulties also lead to potential legal vacuums that could harm all parties involved in the process—developers, users, and AI technology owners alike. Therefore, it is important for countries to formulate legal provisions that not only regulate copyright in the context of traditional works but also adapt to technological developments involving the role of AI in the creative process. Without adequate reform of IPR laws, this uncertainty could hinder innovation, cause prolonged conflicts, and harm those who are entitled to the works produced by this advanced technology.²⁰

C. CONCLUSION

The determination of legal subjects in the protection of Intellectual Property Rights (IPR) for works produced by artificial intelligence (AI) has become an increasingly relevant issue in the digital age. In this context, the legal system, which has traditionally regarded creators as human individuals or legal entities, faces a major challenge in adapting to the development of AI technology capable of automatically producing creative works. The uncertainty regarding who is entitled to copyright whether it is the AI developer, the

¹⁸ Daniel J. Gervais, “The Machine as Author,” *Iowa Law Review*, vol. 105, no. 5 (2020). 17-18

¹⁹ Annemarie Bridy, “AI and the Problem of Copyright Authorship,” *Fordham Law Review*, vol. 79, no. 2 (2010). 21

²⁰ Eleonora Rosati, “Originality in EU Copyright Law,” *International Review of Intellectual Property and Competition Law*, vol. 46, no. 5 (2015). 11-12

technology user, or other parties involved has led to legal uncertainty that needs to be resolved promptly.

Looking at comparisons with other countries, such as the United States and the United Kingdom, which have attempted to regulate copyright over works generated by AI, it can be concluded that although the approaches vary, there is a consensus on the importance of recognizing the party that controls or directs the use of AI. In this case, the developer or entity that has control over the AI technology becomes the legal subject entitled to hold the copyright over the work. In Indonesia, with the implementation of Law No. 28 of 2014 on Copyright, which still refers to human creators, the regulation requires an update to accommodate the reality that AI now acts as the “creator” of works. Therefore, adjustments are needed in the law that explicitly regulate works produced by AI, providing clarity on who is entitled to copyright and how the transfer of rights and licensing are conducted.

Ultimately, by formulating clearer and more adaptive policies, Indonesia can ensure adequate protection for works produced by AI, as well as provide legal certainty for developers and users of technology in the management of intellectual property rights. Such protection is not only important to avoid potential disputes, but also to encourage the development of a more innovative and sustainable creative and technology industry in the future. The determination of legal subjects in the protection of Intellectual Property Rights (IPR) for works produced by artificial intelligence (AI) has become an increasingly relevant issue in the digital age. In this context, the legal system, which has traditionally regarded creators as human individuals or legal entities, faces a major challenge in adapting to the development of AI technology capable of automatically producing creative works. The uncertainty regarding who is entitled to copyright whether it is the AI developer, the technology user, or other parties involved has led to legal uncertainty that needs to be resolved promptly.

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