



RECONSTRUCTING COPYRIGHT PROTECTION FOR ARTIFICIAL INTELLIGENCE-GENERATED WORKS

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ABSTRACT

The development of Generative Artificial Intelligence (AI) has transformed the process of intellectual creation and raised issues regarding authorship and copyright ownership. However, Law Number 28 of 2014 concerning Copyright is still based on the human authorship paradigm and therefore does not provide legal certainty for works produced with the help of AI. This study aims to analyze the adequacy of legal protection for AI works, identify weaknesses in the concept of creator in Indonesian copyright law, and formulate a Human-Centered Copyright Ownership model. The study uses a normative legal method with a statutory, conceptual, comparative, and case approach through an analysis of laws and regulations, international instruments, court decisions, doctrines, and scientific literature. The results of the study indicate that Indonesian copyright law still experiences a normative vacuum regarding the ownership of AI works and therefore is unable to provide legal certainty. As a novelty, this study offers a Human-Centered Copyright Ownership model that positions AI as a creative tool, while copyright ownership is determined based on substantial human creative contribution. This model provides more objective normative parameters for determining creators and copyright holders and serves as a basis for reforming the Copyright Law to achieve a balance between protecting human creativity, legal certainty, and technological innovation.

1. Introduction

The development of Artificial Intelligence (AI), particularly generative artificial

intelligence, has fundamentally transformed the process of creating intellectual works.¹ Unlike conventional software that merely executes user instructions deterministically, generative AI is capable of generating text, images, music, videos, computer programs, and various other forms of creative expression through machine learning and large language models. This capability makes AI no longer merely a tool but plays an active role in the creative process. This development raises new issues in copyright law, particularly regarding whether works generated by AI are eligible for legal protection and who should be legally recognized as the creator and copyright holder.²

The international copyright legal framework currently lacks provisions that explicitly accommodate works generated by AI. The Berne Convention for the Protection of Literary and Artistic Works is based on the principle that copyright arises from human intellectual creation, while the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) adopts the Berne standard without specifically addressing AI. Similarly, various discussions within the World Intellectual Property Organization (WIPO) indicate that current international copyright instruments were drafted before the development of generative AI and therefore are unable to address issues regarding authorship and copyright ownership of works autonomously generated by AI.³ Consequently, the resolution of these issues remains up to individual countries, leading to diverse legal approaches.

These differences are evident in the various legal systems currently in development. The United States consistently requires human authorship, making works entirely generated by AI ineligible for copyright protection.⁴ The European

¹ Mohammad Abdallah, and Mousa Salah., Artificial intelligence and intellectual properties: Legal and ethical considerations, *International Journal of Intelligent Systems and Applications in Engineering*, Vol.12, no.1, 2024, page.369. See too, Ilyos Abdullayev, Kira Vagner, Olesya Tereshchenko, Alexey Nedelkin, and Vitalii Vasyukov., Opportunities for Developing Natural Language Models in Building Artificial Intelligence Systems to Enhance Educational Process Support, *Pakistan Journal of Life & Social Sciences*, Vol.22, no.2, 2024, page.343.

² Abed Fayed, Aliaa Zakaria, and Alaa Abouahmed., Innovations of Artificial Intelligence in Light of the Applicable Copyright Law: Realistic Solutions and Future Prospects. A Comparative Study of UAE, Egyptian, and French Laws, *Access to Just, Eastern Euroope*, Vol.2, 2025, page.241. See too, Amanda M. Horzyk, How AI affects our understanding of musical works that should be protected by copyright, In *2023 international joint conference on neural networks (IJCNN)*, IEEE, 2023, page.6; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.409; Irene Stamatoudi., Copyright Protection for AI-Generated Works: Is It Something We Want?, *Cyprus Review* Vol.38, no.1, 2026, page.109.

³ Hafiz Gaffar, and Saleh Albarashdi., Copyright protection for AI-generated works: Exploring originality and ownership in a digital landscape, *Asian Journal of International Law*, Vol.15, no.1, 2025, page.24. See too, Firas Massadeh, Fayez Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.52; Qingchuan Xie, and Tianxiang He., Battle between 'long'and 'short'videos: Fragmented uses, diversified purposes, and the evolution of China's copyright limitation rules in the AI era, *The Chinese Journal of Comparative Law*, Vol.11, no.3, 2023, page.1.

⁴ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.113. See too,

Union also continues to prioritize human creativity as a key element in assessing the originality of a work.⁵ Conversely, the United Kingdom, through the Copyright, Designs and Patents Act 1988, recognizes computer-generated works by stipulating that the creator is the party who makes the necessary arrangements for the creation process.⁶ On the other hand, several court decisions in China have begun to provide protection for AI works by placing the developer or party controlling the AI system as the copyright holder.⁷ These diverse approaches demonstrate that there is currently no international consensus on the concept of authorship and copyright ownership for AI-generated works.

This issue is even more pressing in the Indonesian context because Law Number 28 of 2014 concerning Copyright is still entirely based on an anthropocentric paradigm that positions humans as the sole creators. The definition of author, the concept of originality, moral rights, and economic rights all assume that a work arises from human creativity. The law does not yet regulate the legal status of AI-generated works, the legal relationship between AI users, AI developers, and AI platform providers, or the mechanism for determining copyright ownership of AI-generated works.⁸ Yet, the use of generative AI applications such as ChatGPT,

Ansagan Aronov, and Sara Idrysheva., Copyright protection on works generated by artificial intelligence, *Science and Innovation*, Vol.21, no.1, 2025, page.115; Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.23; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.410.

⁵ Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.355.

⁶ Jyh-An Lee., Computer-generated Works under the CDPA 1988, Artificial Intelligence and Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press, 2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.23. See too, Zehra Özkan Üner, and Pinar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.54.

⁷ Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.23. See too, Haochen Sun., Redesigning copyright protection in the era of artificial intelligence, *Iowa Law Review*, Vol.107, 2022, page.1216; Sin Zhi Ying, Chia Yuh Bao, Sharon Varghese, Michael Goh, Tee Connie, and Manique Apsara Ephranella Cooray., AI Dilemma: Copyrighting Creativity in the Age of Artificial Intelligence, *International Journal of Cyber Criminology*, Vol.18, no.2, 2024, page.39.

⁸ Ranti Fauza Mayana, Thomas Budhyawan Yudhya, Tisni Santika, Ahmad M. Ramli, and Sigid Suseno., Economic & Moral Right for Artificial Intelligence Generated Works: Perspective from Indonesia Copyright Law, In *Proceedings of the 2024 5th International Artificial Intelligence and Blockchain Conference*, 2024; page.42. See too, Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.137; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.155.

Gemini, Midjourney, DALL·E, and various similar platforms is increasingly widespread in Indonesia for book development, graphic design, software, learning materials, marketing content, and other creative industries.⁹ If a dispute arises regarding ownership of the work, Indonesian positive law does not yet provide a clear normative basis for determining who has the right to copyright.

This lack of legal certainty has far-reaching implications. If all AI works are granted copyright protection without clear boundaries, companies that control AI technology could potentially monopolize the production of creative works and diminish the economic value of human creativity.¹⁰ Conversely, if all AI works are placed in the public domain, users and industry players will lose legal certainty in commercializing AI-assisted works. This lack of clarity also has the potential to create inconsistencies in judicial practices, licensing, investment, and copyright law enforcement in Indonesia.¹¹ Therefore, determining copyright ownership of AI works is no longer merely an academic issue, but rather an urgent need to ensure legal certainty, support the national creative industry, and maintain a balance between copyright protection and technological development.

Various previous studies have offered various concepts regarding copyright ownership of AI works. Some studies maintain the principle of human authorship by placing human creativity as the primary requirement for copyright protection.¹² Other studies argue that copyright should be granted to AI users because they provide prompts and initiate the creative process.¹³ Still others propose that

⁹ Gaspar Alberto Angulo Matos, Nadia Liz Romero Rodríguez, and Eduardo Andrés Calderón Marengo., Dos inteligencias y una autoría: chatGPT y el reconocimiento de la personalidad en el marco legal peruano, *Justicia*, Vol.4, no.3, 2025, page.232.

¹⁰ Minh Le Thi., Copyright Protection for Works Created by AI Technology under the EU Law and Vietnamese Law, *Rev. Eur. & Comp. L.* Vol.55, 2023, page.7.

¹¹ Amanda M. Horzyk, How AI affects our understanding of musical works that should be protected by copyright, In *2023 international joint conference on neural networks (IJCNN)*, IEEE, 2023, page.7. See too, Singh Hoshier, and Sharma Kiran., Copyright in the Age of Artificial Intelligence: Unravelling the Complexities For the Protection of AI-Generated Work. In *2024 ITU Kaleidoscope: Innovation and Digital Transformation for a Sustainable World (ITU K)*, New York City, IEEE, 2024, page.6; Paarth Naithani., Issues of authorship and ownership in work created by artificial intelligence-Indian copyright law perspective, *NTUT Journal of Intellectual Property Law and Management*, Vol.11, no.1, 2022, page.8; Rofi Aulia Rahman, Akhmad Al-Farouqi, and Shu Mei Tang., Should Indonesian Copyright Law be Amended Due to Artificial Intelligence Development?: Lesson Learned from Japan, *NTUT Journal of Intellectual Property Law and Management*, Vol.9, no.1, 2020, page.38; Nadia Yas, Hani Abdulrahim, Issa Ghassan Rabadi, and Zeana Abdijabar., Protecting the civil rights of the author from the risks of artificial intelligence, *Research Journal in Advanced Humanities*, Vol.6, no.1, 2025, page.23.

¹² Ansagan Aronov, and Sara Idrysheva., Copyright protection on works generated by artificial intelligence, *Science and Innovation*, Vol.21, no.1, 2025, page.116. See too, Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.365; Irene Stamatoudi., Copyright Protection for AI-Generated Works: Is It Something We Want?, *Cyprus Review* Vol.38, no.1, 2026, page.111.

¹³ Sk M. Ali, Anuttama Ghose, Shashikant Saurav, and Sachin Deshmukh., Creativity and Innovation in the Age of Artificial Intelligence: A Copyright Dilemma, *Padjadjaran Jurnal Ilmu Hukum*, Vol.11, no.2, 2024, page.6. See too, Axell Cervera, Erik Obiol, and José Rolando Cardenas-Gonzales., Derechos de autor y calidad de las instrucciones en obras generadas por inteligencia artificial, *Nuevo Derecho*, Vol.21, no.37, 2025, page.17; Anthi Gaidartzi, and Irini Stamatoudi.,

copyright be granted to AI developers or those who undertake technical arrangements for AI systems, as is the UK's necessary arrangements approach.¹⁴ Furthermore, there is also the concept of joint authorship, which views humans and AI as parties that jointly contribute to the creation process, as well as the proposal to establish a sui generis regime because the copyright regime is deemed no longer adequate to regulate AI works.¹⁵ These differences indicate that there is no agreement yet on the concept of authorship or copyright ownership of AI works.

However, these studies still leave several gaps. First, most studies focus on the issue of copyrightability of AI works or on comparative studies between countries, but have not specifically reconstructed the concept of copyright ownership within the framework of the Indonesian Copyright Law. Second, various proposed models, such as user ownership, developer ownership, joint authorship, work-made-for-hire, and sui generis, have not been able to accommodate the anthropocentric nature of Indonesian copyright law while simultaneously accommodating the use of AI as a creative instrument. Third, previous research has not formulated clear legal parameters regarding the extent to which human creative contributions can be used as a basis for determining the status of creators and copyright holders of AI-generated works. Consequently, there is currently no normative model that can provide legal certainty while upholding the fundamental

Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.58; Oluwatobi Victoria Taiwo., Artificial Intelligence Generated Works and the Copyright Dilemma: A Case Study of the United Kingdom and South Africa, In *Contemporary Issues in Intellectual Property Law in Africa*. Routledge, 2024, page.172; Felipe Osorio Umaña., El concepto de originalidad del Tribunal de Justicia de la Unión Europea y la inteligencia artificial, *Revista Justicia y Derecho*, Vol.8, no.1, 2025, page.1.

¹⁴ Singh Hoshiar, and Sharma Kiran., Copyright in the Age of Artificial Intelligence: Unravelling the Complexities For the Protection of AI-Generated Work, In *2024 ITU Kaleidoscope: Innovation and Digital Transformation for a Sustainable World (ITU K)*, New York City, IEEE, 2024, page.7. See too, Jyh-An Lee., Computer-generated Works under the CIPA 1988, Artificial Intelligence and Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press, 2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.25.

¹⁵ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.288. See too, Firas Massadeh, Fayed Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.53; Karun Sanjaya, and P. R. L. Rajavenkatesan., Artificial intelligence and intellectual property rights A copyright perspective, *Journal of Intellectual Property Rights*, Vol.30, no.1, 2025, page.27; Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.138; Haochen Sun., Redesigning copyright protection in the era of artificial intelligence, *Iowa Law Review*, Vol.107, 2022, page.1218. See too, Jinyang Tian., The Nature and Ownership of Copyright for AI-Generated Works, *NTUT Journal of Intellectual Property Law and Management* Vol.13, no.1, 2024, page.47.

principle that copyright arises from human creativity.

Based on these gaps, this study proposes a Human-Centered Copyright Ownership model to reconstruct copyright ownership of AI-generated works within the Indonesian legal system. Unlike the concept of joint authorship, which places AI as part of the authorship process, this model maintains that only humans can be recognized as creators. Unlike the work-made-for-hire approach, which bases ownership on technological control or contractual relationships, and the *sui generis* concept, which establishes a new rights regime outside of copyright law, the proposed model maintains the existing copyright regime by making substantial human creative contributions the primary parameter in determining creators and copyright holders. Thus, AI is positioned as a creative instrument, not as a legal subject or creator.

This research is expected to provide theoretical and practical contributions to the development of Indonesian copyright law. Theoretically, this research offers a reconstruction of the concept of copyright ownership that maintains the principle of human authorship but accommodates the development of generative AI. Practically, the proposed model is expected to serve as a basis for legislators, judges, legal practitioners, creative industry players, and AI developers in realizing legal certainty regarding copyright ownership of AI-generated works. Based on these objectives, this research aims to answer three main questions:

1. Does current Indonesian copyright law provide protection for AI-generated works?
2. Why the concept of creator in the Copyright Law is no longer adequate to regulate ownership of AI works?
3. How can the Human-Centered Copyright Ownership model be reconstructed within the Indonesian copyright legal system?

2. Research Methods

This research is a normative legal research (doctrinal legal research) aimed at evaluating the adequacy of Indonesian copyright regulations in accommodating works produced by Artificial Intelligence (AI), identifying gaps and inconsistencies in norms, and reconstructing a copyright ownership model that aligns with the development of AI without neglecting the basic principles of Indonesian copyright law. This research is prescriptive in nature, as it not only analyzes positive law but also formulates a Human-Centered Copyright Ownership model as a recommendation for legal reform. To address the research questions, the research utilizes four complementary approaches. The first question, concerning legal protection for AI works, is analyzed through a statutory and case-based approach. The second question, concerning weaknesses in the concept of creator, is analyzed through a conceptual approach, examining theories of authorship, originality, human creativity, moral rights, and economic rights. The third question, concerning the reconstruction of the copyright ownership model, is analyzed through a comparative legal approach, combining the results of normative, conceptual, and case-based analyses to produce a comprehensive reconstruction model.

A doctrinal approach is used to assess the suitability of Indonesian positive law to the development of AI through an analysis of Law Number 28 of 2014 concerning Copyright, specifically provisions concerning creators, copyright ownership, moral rights, economic rights, originality, and protection of creations. This analysis is linked to international instruments that form the foundation of the copyright system, namely the Berne Convention for the Protection of Literary and Artistic Works, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), and documents and recommendations of the World Intellectual Property Organization (WIPO) regarding intellectual property and AI. Moreover, a conceptual approach is used to analyze copyright legal doctrine regarding authorship, originality, human creativity, moral rights, economic rights, theories of intellectual property ownership, and the relationship between humans and AI in the creation process. This analysis aims to formulate legal parameters for substantial human creative contribution as a basis for determining creators and copyright holders of AI-assisted works. Lastly, a comparative legal approach is used to compare AI copyright regulations in the United States, the United Kingdom, the European Union, Japan, Singapore, and China. The comparison is conducted to identify legal principles, best practices, and regulatory alternatives relevant to the reconstruction of Indonesian copyright law, not to conduct legal transplantation.

The legal materials consist of primary legal materials (statutory regulations, international instruments, court decisions, and official documents), secondary legal materials (books, scientific articles, research results, and doctrines), and tertiary legal materials (legal dictionaries and encyclopedias). All materials are analyzed qualitatively through inventory, classification, grammatical, systematic, comparative, and teleological interpretation, then compiled using legal reasoning to identify gaps, conflicts, and inadequacies of norms as the basis for formulating a Human-Centered Copyright Ownership model for Indonesian copyright law reform.

3. Results and Discussion

3.1. Legal Protection for Works Generated by Artificial Intelligence: A Doctrinal Perspective

The development of generative artificial intelligence has changed the paradigm of intellectual creation. Unlike conventional software, which only executes instructions deterministically, generative AI is capable of generating text, images, music, video, software, and even graphic designs through machine learning and large language models.¹⁶ This change raises fundamental questions regarding whether AI-generated works can be protected by copyright, who can be recognized as the creator, and how the economic and moral rights to these works

¹⁶ Jacopo Ciani., Learning from monkeys: authorship issues arising from AI technology, In *EPIA Conference on Artificial Intelligence*. Cham, Springer International Publishing, 2019, page.278. See too, Ekaterina A. Sviridova., The problem of determining the subject of copyright for works created by artificial intelligence, *Gosudarstvo i pravo*, Vol.2, 2021, page.97.

should be allocated.¹⁷

In copyright law, protection for AI-generated works is not only concerned with recognition of the creation but also includes determining who is entitled to the economic and moral rights to the work. Therefore, discussions about AI cannot be separated from the three fundamental concepts of copyright law: authorship, originality, and copyright ownership. Most copyright regimes worldwide continue to place humans at the center of the protection system (human-centered authorship), so that works are only protected if they are the result of human intellectual expression manifested in a tangible form.¹⁸

This principle also underpins various international instruments. The Berne Convention for the Protection of Literary and Artistic Works requires that works be the result of the intellectual expression of the creator, while the TRIPS Agreement adopts protection principles based on the provisions of the Berne Convention. Although neither instrument explicitly regulates works produced by AI, both are built on the assumption that the creator is human. Likewise, various discussions developed by the World Intellectual Property Organization (WIPO) to date have not produced a specific international instrument regarding copyright ownership of AI works, so that the resolution still depends on the interpretation of each country.¹⁹

¹⁷ Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.24. See too, Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.412; Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.367; Irene Stamatoudi., Copyright Protection for AI-Generated Works: Is It Something We Want?, *Cyprus Review* Vol.38, no.1, 2026, page.112.

¹⁸ Anthi Gaidartzi, and Irini Stamatoudi., Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.59. See too, Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.413; Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.368; Zehra Özkan Üner, and Pinar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.58.

¹⁹ Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.24. See too, Hafiz Gaffar, and Saleh Albarashdi., Copyright protection for AI-generated works: Exploring originality and ownership in a digital landscape, *Asian Journal of International Law*, Vol.15, no.1, 2025, page.25; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.414; Qingchuan Xie, and Tianxiang He., Battle between 'long'and 'short'videos: Fragmented uses, diversified purposes, and the evolution of China's copyright limitation rules in the AI era, *The Chinese Journal of Comparative Law*, Vol.11, no.3, 2023, page.3; Shuang Yang., Optimizing Copyright Subject and Originality Rules for AI-Generated Software, In *Proceedings of the 2025 International Conference on Computer Technology, Digital Media and Communication*, 2025, page.544.

In the Indonesian context, this construction is clearly reflected in Law Number 28 of 2014 concerning Copyright. Article 1 number (2) defines a creator as a person or several people who, individually or collectively, produce a work that is unique and personal. This provision demonstrates that Indonesian copyright law is built on three main elements: the existence of a human legal subject, the existence of human intellectual capacity that gives rise to the creation, and the existence of a personal relationship between the creator and the work they produce. Consequently, moral rights as regulated in Article 5 and economic rights in Articles 8 and 9 can only be attached to humans as rights holders. Thus, AI, as a computing system that lacks legal personality, consciousness, will, or legal responsibility, cannot be recognized as a creator according to the construction of Indonesian positive law.²⁰

However, the primary issue lies not in whether AI can be recognized as a creator, but rather in whether the concept of creator as formulated in the Copyright Law remains adequate when the creative process is no longer entirely human-driven. Doctrinally, the entire structure of Indonesian copyright law is assumed to be based on a direct relationship between human intellectual activity and the resulting expression. This assumption becomes inadequate when AI is capable of composing music, producing illustrations, writing scientific articles, or creating software autonomously based on computational processes not entirely controlled by humans. In other words, the problem that arises is not a lack of objects of protection, but a lack of norms in determining the legal relationship between humans, AI, and their creations.²¹

This normative gap becomes even more apparent when linked to the principle of originality. In copyright law, originality is not defined as absolute novelty, as in

²⁰ Laurensia Andrini., Redesigning Indonesia Copyright Act to Accommodate Autonomous Intelligent System: Status Quo and Room for Improvement, *Asian Journal of Law and Economics*, Vol.9, no.3, 2018, page.21813. See too, Ranti Fauza Mayana, Thomas Budhyawan Yudhya, Tisni Santika, Ahmad M. Ramli, and Sigid Suseno., Economic & Moral Right for Artificial Intelligence Generated Works: Perspective from Indonesia Copyright Law, In *Proceedings of the 2024 5th International Artificial Intelligence and Blockchain Conference*, 2024; page.43; Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.139; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.156.

²¹ Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.28. See too, Ranti Fauza Mayana, Thomas Budhyawan Yudhya, Tisni Santika, Ahmad M. Ramli, and Sigid Suseno., Economic & Moral Right for Artificial Intelligence Generated Works: Perspective from Indonesia Copyright Law, In *Proceedings of the 2024 5th International Artificial Intelligence and Blockchain Conference*, 2024; page.44; Kenneth Bradley Sajogo, Fajar Sugianto, and Atsuko Yamamoto., Comparative Analysis Regarding the Copyright Law on AI-Generated Art Between Indonesian and the United States: Unpacking Indonesian Legal Framework Conundrum, *Jurnal Hukum Bisnis Bonum Commune*, no.2, 2025, page.218.

patent law, but rather as the result of human intellectual choice and creativity (independent intellectual creation). Therefore, the measure of originality is always related to the extent to which the final expression is a manifestation of human creativity. In entirely AI-generated works, this relationship becomes blurred because the final expression is formed through statistical and algorithmic processes carried out by the AI system, rather than through direct human creative choices.²² Consequently, even if a work appears novel and has economic value, it may not necessarily meet the requirements of originality as required by the copyright regime.

The international debate demonstrates the lack of a uniform approach to protecting AI works. The United States consistently requires human authorship, thus denying copyright protection to works generated entirely by AI. The European Union maintains a similar approach, placing human creativity as the primary criterion for originality. Conversely, the United Kingdom, through the Copyright, Designs and Patents Act 1988, recognizes computer-generated works by granting authorship to those who make necessary arrangements for the creation process. In China, several court decisions have begun to provide protection for AI works by attributing ownership to the developer or the party controlling the AI system. These differences in approach (Table 1) indicate that the primary issue is no longer the ability of AI to produce works, but rather the legal basis for determining who is entitled to copyright protection.²³

²² Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.356. See too, Komalavalli C., Rinki Bhati, R., Akhilesh Kumar Khan, and Arun Kumar Tripathi., *Smart contracts for AI-generated art rights*, *ShodhKosh: Journal of Visual and Performing Arts*, Vol.6, no.1, 2025, page.43; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.415; Hernán Núñez Rocha., Artificial Intelligence and Copyright Law, Notes on Content Generation, *Boletín mexicano de derecho comparado*, Vol.58, no.174, 2025, page.323; Kenneth Bradley Sajogo, Fajar Sugianto, and Atsuko Yamamoto., Comparative Analysis Regarding the Copyright Law on AI-Generated Art Between Indonesian and the United States: Unpacking Indonesian Legal Framework Conundrum, *Jurnal Hukum Bisnis Bonum Commune*, no.2, 2025, page.219.

²³ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.114. See too, Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.25; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.417; Jyh-An Lee., Computer-generated Works under the CDPA 1988, Artificial Intelligence and Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press, 2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.26; Haochen Sun., Redesigning copyright protection in the era of artificial intelligence, *Iowa Law Review*, Vol.107, 2022, page.1217; Seiya S. Takeuchi., Japan's legal framework for copyright protection of AI-generated works: A comparative law analysis exploring the possibility of Japan's adoption of the UK legislative approach, *The Journal of World Intellectual Property*, Vol.28, no.2, 2025, page.325.

Table 1. Comparative Approaches to Copyright Protection for AI-Generated Works Across Selected Jurisdictions

Jurisdiction	Approach	Key Features	Protection Status	Sources
United States	Human Authorship	Requires human authorship; AI-generated works are not eligible for copyright protection.	Purely AI-generated works are not protected.	Furqan et al. (2026); Kumar & Yadav (2024); Ampovska (2025) ²⁴
European Union	Human Creativity	Emphasizes human creativity and originality; AI-generated works generally do not qualify for copyright protection.	Protection requires substantial human creative contribution.	Kumar & Yadav (2024); Ampovska (2025) ²⁵
United Kingdom	Necessary Arrangements	Recognizes <i>computer-generated works</i> under the Copyright, Designs and Patents Act 1988, assigning authorship to the	Copyright is granted to the person responsible for organizing the creation process.	Lee (2021); Ampovska (2025); Üner & Aksoy (2025); Praja et al. (2025) ²⁶

²⁴ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.115. See too, Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.26; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.419.

²⁵ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.116. See too, Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.418.

²⁶ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.117. See too, Jyh-An Lee., Computer-generated Works under the CDPA 1988, *Artificial Intelligence and*

		person making the necessary arrangements.		
Japan	Human Creativity	Balances the protection of human creativity with incentives for AI innovation.	AI is not recognized as an author; human contribution remains the primary basis for protection.	Takeuchi (2025) ²⁷
China	Judicial Approach	Several courts have recognized copyright protection for AI-generated works, attributing ownership to AI developers or controllers in specific cases.	Protection may be granted to AI developers or controllers under particular judicial circumstances.	Sun (2022); Dang (2026) ²⁸
Indonesia	Human-Centered Authorship	Copyright law remains human-centered and does not recognize AI as an author, although academic discussions have	No explicit legal regulation governing AI-generated works.	Praja et al. (2025); Subagiyo & Wibisono (2024); Mayana et al. (2024) ²⁹

Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press, 2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.26; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.154; Zehra Özkan Üner, and Pinar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.57.

²⁷ Seiya S. Takeuchi., Japan's legal framework for copyright protection of AI-generated works: A comparative law analysis exploring the possibility of Japan's adoption of the UK legislative approach, *The Journal of World Intellectual Property*, Vol.28, no.2, 2025, page.326.

²⁸ Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.25. See too, Haochen Sun., Redesigning copyright protection in the era of artificial intelligence, *Iowa Law Review*, Vol.107, 2022, page.1218.

²⁹ Ranti Fauza Mayana, Thomas Budhyawan Yudhya, Tisni Santika, Ahmad M. Ramli, and Sigid Suseno., Economic & Moral Right for Artificial Intelligence Generated Works: Perspective from Indonesia Copyright Law, In *Proceedings of the 2024 5th International Artificial Intelligence and*

		explored <i>joint</i> <i>authorship</i> models.		
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Various countries have also begun offering alternatives beyond conventional copyright regimes. One such approach is the concept of sui generis rights, which establishes a new intellectual property rights regime specifically governing works generated by AI without altering the concept of creatorship in copyright law. This approach aims to provide legal certainty for AI works that do not meet the requirements of human authorship. However, the sui generis approach remains controversial because it has the potential to create a dualistic protection regime and obscure the copyright philosophy, which was originally established to protect human creativity.³⁰

In the Indonesian context, establishing a sui generis regime is also not the most appropriate option, as it would require fundamental changes to the existing copyright legal system. The main problem lies in the lack of normative parameters to determine when the use of AI can still be considered part of the human creative process. Therefore, according to this study, protection for AI-based works should not be determined based on the presence or absence of AI use, but rather on substantial human creative contribution. These contributions can be assessed through several initial indicators, namely: (1) humans determine the main creative ideas, goals, and concepts; (2) humans carry out substantive and repeated selection, arrangement, or modification of prompts; (3) humans control the selection and revision process of AI output; (4) humans provide creative editing that influences the final form of the work; and (5) the final expression reflects

Blockchain Conference, 2024; page.47. See too, Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.140; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.158; Sikun Zhao., The Role of Copyright Authentication in AI-Generated Visual Content: Constructing Trust in AIGC Media Environments and the Impact of Copyright Ambiguity on Perceived Authenticity, *Studies in Media and Communication*, Vol.14, no.1, 2026, page.339.

³⁰ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.289. See too, Firas Massadeh, Fayez Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.54; Pratiti Nayak, and Kiymet Tunca Çaliyurt., Addressing Copyright Challenges in the Era of AI-Generated Content: What Are the Legal Implications?, In *A Multidisciplinary Approach to KIIT Horizons, Volume 1: Exploring Artificial Intelligence Across Disciplines*, Singapore, Springer Nature Singapore, 2025, page.3; Eleni Tzoulia., IP Protection for AI-Generated Content in the "Post-AI Act" Era, In *EU Digital Law in the AI Era*, Cham, Springer Nature Switzerland, 2025, page.136.

human intellectual choices, not merely the automatic results of the AI system. Conversely, if the human role is limited to providing simple commands (simple prompts) without further creative involvement, then the personal relationship between the creator and the creation becomes very weak, making it difficult to fulfill the authorship and originality requirements in the Copyright Law.

Thus, the main problem with Indonesian copyright law is not the recognition of AI as a creator, but rather the absence of norms that can measure the level of human creative contribution in the AI-based creation process. This gap causes Law Number 28 of 2014 to be unable to provide legal certainty regarding the status of copyright protection, ownership, or the boundaries between the use of AI as a creative aid and AI as the party that predominantly produces the expression of the work.

3.2. Human Authorship and the Creator Concept in AI-Generated Works: A Conceptual Approach

Law Number 28 of 2014 concerning Copyright comprehensively regulates creators, copyright holders, moral rights, and economic rights. However, this entire structure is based on the assumption that every creation is the result of human intellectual expression. Therefore, the relationship between creators and copyright holders is fundamentally inseparable from the existence of humans as legal subjects. This anthropocentric assumption is sufficient when the entire creation process is carried out by humans, but becomes problematic when works are produced through the involvement of generative Artificial Intelligence (AI), which is capable of autonomously generating creative expression based on machine learning processes and large language models.³¹

The key issue is not simply whether works produced by AI can obtain copyright protection, but rather whether the concept of "creator" in Indonesian copyright law remains sufficient to determine copyright ownership when the creative process involves more than one actor. In practice, the creation of AI-based works involves at least four parties: the user who formulates the prompt and determines the creative goal; the developer who designs the algorithm and trains the AI model; the platform provider who provides the computing infrastructure and terms of service; and the AI system that produces the final expression of the work. The complexity of these relationships was never anticipated in the construction of the Copyright Law, resulting in the lack of normative parameters to determine who is legally entitled to be the copyright holder.³²

³¹ Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.27. See too, Ranti Fauza Mayana, Thomas Budhyawan Yudhya, Tisni Santika, Ahmad M. Ramli, and Sigid Suseno., Economic & Moral Right for Artificial Intelligence Generated Works: Perspective from Indonesia Copyright Law, In *Proceedings of the 2024 5th International Artificial Intelligence and Blockchain Conference*, 2024; page.45; Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.369.

³² Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.118. See too, Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the

This ambiguity creates a normative vacuum that directly impacts legal certainty. From a doctrinal perspective, certainty regarding copyright holders is a prerequisite for the exercise of both economic and moral rights. Without the identification of legitimate rights holders, licensing, transfer of rights, royalty payments, enforcement of infringement laws, and dispute resolution become difficult. For example, companies purchasing AI-generated illustrations or software have no assurance that the licensing party is truly the legitimate rights holder. This situation increases transaction risks, hinders investment in the creative industry, and reduces the effectiveness of copyright protection in Indonesia.³³

Various jurisdictions have developed different approaches to address this issue, but there is no international consensus. The United States and the European Union continue to uphold the principle of human authorship, so works generated entirely by AI do not qualify for copyright protection because they lack sufficient human creativity.³⁴ In contrast, the United Kingdom has adopted a computer-generated works approach through the concept of necessary arrangements, which places the party initiating the creation process as the copyright holder.³⁵ Meanwhile, several

European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.419; Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.29; Ranti Fauza Mayana, Tisni Santika, Yin Yin Win, Jamil Adrian Khalil Matalam, and Ahmad M. Ramli., Legal issues of artificial intelligence-generated works: Challenges on Indonesian copyright law, *Law Reform*, Vol.20, no.1, 2024, page.56.

³³ Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.30. See too, Ziana Mahfuzzah, Putri Rumondang Siagaian, Cheryl Patriana Yuswar, Muhammad Citra Ramadhan, and Dametken Medikhanovna Turekulova., Reforming the fair use doctrine in Indonesian intellectual property law: Addressing AI and digital creativity through Islamic legal perspectives, *Jurnal Ilmiah Mizani*, Vol.13. no.1, 2026, page.454; Bernard Nainggolan, Agus Joko Pramono, and Stefan Koos., Legal Protection of Intellectual Property for Digital Works by Utilizing Emerging Technologies, *Jurnal Hukum UNISSULA*, Vol.41, no.4, 2025, page.899; Deslaely Putranti, Uni Tsulasi Putri, Adhi Prahara, and Muh Syah Quddus., Proposing digital copyright infringements enforcement through internet court in Indonesia: fostering the existing E-Court system, In *E3S Web of Conferences*, EDP Sciences, 2025, page.3006; Syafrinaldi Syafrinaldi, Kim Hyeonsoo, Rani Fadhila Syafrinaldi, and David Hardiogo., Artificial Intelligence, Innovation, and Copyright: Comparing Intellectual Property Law in Indonesia and South Korea, *Lex Scientia Law Review*, Vol.8, no.2, 2024, page.1148.

³⁴ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.119. See too, Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.357; Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.29; Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.419.

³⁵ Jyh-An Lee., Computer-generated Works under the CDPA 1988, Artificial Intelligence and Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press,

court decisions in China have begun to recognize protection for AI works by attributing ownership to the developer or party controlling the AI system, although AI itself remains unrecognized as a legal subject.³⁶ These differences indicate that the primary issue is not the recognition of AI as an author, but rather the determination of the legal relationship between human contributions and the results produced by AI.

Various literature shows that until now there is no lack of consensus on who should hold copyright over works produced through Artificial Intelligence (AI).³⁷ These differences have given rise to at least four ownership models that have developed in the literature and practice of several jurisdictions: user ownership, developer ownership, platform ownership, and collaborative ownership or special regimes (joint authorship and sui generis rights) (Table 2). Each model is based on different legal arguments but also has limitations when applied to a copyright system that maintains the principle of human authorship, as is the case in Indonesia.

Table 2. Comparison of Copyright Ownership Models for AI-Generated Works

Ownership Model	Underlying Rationale	Strengths	Limitations
User Ownership	The user determines the creative objective through prompts, selects parameters, revises outputs, and decides the final result.	Provides incentives for creators using AI while maintaining the principle that human creativity remains the foundation of copyright.	Not all prompts reflect sufficient creativity. If human involvement is limited to simple instructions, it is difficult to establish originality and meaningful intellectual expression.
Developer Ownership	The developer designs the algorithms, AI models, and machine learning systems that enable AI to generate works.	Recognizes the intellectual investment, technological innovation, and development costs involved in creating AI systems.	Developers do not control the final expression of each generated work; therefore, the connection between the developer and individual works is

2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.26; Zehra Özkan Üner, and Pinar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.58.

³⁶ Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.26.

³⁷ Junaidi., The Urgency of Regulating Copyright of Artificial Intelligence Works With the Fair Use Principle From the Perspective of Development Law Theory, In *Ethical, Regulatory, and Intellectual Property Impacts on AI Development*, Pennsylvania, IGI Global Scientific Publishing, 2026, page.276.

			weak.
Platform Ownership	Platform providers supply the digital infrastructure, AI models, and regulate rights through terms of service.	Facilitates licensing and commercial exploitation through contractual arrangements.	Contractual terms bind only the contracting parties and cannot replace copyright ownership rules established under national copyright law.
Joint Authorship / <i>Sui Generis</i> Rights	Treats AI-generated works as collaborative creations between humans and AI or establishes a separate legal regime outside conventional copyright law.	Attempts to accommodate the unique characteristics of AI-generated works that cannot be fully addressed by traditional copyright principles.	Joint authorship is difficult to apply because AI is not a legal person. A <i>sui generis</i> regime may create overlapping protection and weaken the principle of human authorship.

Sumber: Lee (2021); Sun (2022); Subagiyo & Wibisono (2024); Mayana et al. (2024); Hoshier & Kiran (2024); Cervera et al. (2025); Gaidartzi & Stamatoudi (2025); Praja et al. (2025); Sanjaya & Rajavenkatesan (2025); Baker (2026); Massadeh et al. (2024).

The first model positions the AI user as the copyright holder because the user determines the creative intent through developing prompts, selecting parameters, evaluating outputs, and determining the final result. This approach views AI as a tool, thus retaining copyright with the human who makes a substantial creative contribution, while maintaining the principle of human authorship.³⁸ However, this model faces weaknesses when user contributions consist only of simple instructions, necessitating objective legal criteria to measure substantial human creative contribution.³⁹

The second model grants ownership to the AI developer, arguing that the AI's ability to produce works is the result of intellectual and technical investments in

³⁸ Axell Cervera, Erik Obiol, and José Rolando Cardenas-Gonzales., Derechos de autor y calidad de las instrucciones en obras generadas por inteligencia artificial, *Nuevo Derecho*, Vol.21, no.37, 2025, page.18. See too, Anthi Gaidartzi, and Irini Stamatoudi., Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.60; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.159.

³⁹ Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.30. See too, Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.370.

algorithm development, machine learning, and training data. Consequently, several Chinese rulings have begun to link the protection of AI works to the system developer.⁴⁰ However, this approach is weak because developers generally do not determine the theme, purpose, or final expression of each work. Their contributions are more accurately viewed as those of the technology creator, rather than the individual creator of the work. Automatically granting rights to developers also has the potential to disregard users' creative contributions and create monopolies that contradict the objectives of copyright law.⁴¹

The third model links ownership to AI platform providers through terms of service, which regulate rights to AI output. Some platforms grant rights to users, while others retain specific licenses for the output. This approach provides certainty in contractual relationships and facilitates licensing and commercialization of works.⁴² However, terms of service cannot replace national copyright laws because they only bind the parties. In disputes with third parties, contractual clauses may not be sufficient to prove authorship or copyright ownership of AI works.⁴³

The fourth model proposes joint authorship or sui generis rights. Joint authorship views AI works as the result of collaboration between humans and AI, while sui generis offers a special protection regime because the characteristics of AI works are deemed not fully in line with conventional copyright regimes.⁴⁴ However, both models face conceptual obstacles. AI is not a legal subject, making it difficult to recognize as a co-creator, while the sui generis regime has the potential to create dual protection and contradicts the principle of human authorship, which remains

⁴⁰ Dang Bui Thi Hai., Copyright protection in the age of generative ai: a comparative study of global regulatory trends and judicial divergence, *Issue*, Vol.2 no.1 2026, page.28. See too, Singh Hoshier, and Sharma Kiran., Copyright in the Age of Artificial Intelligence: Unravelling the Complexities For the Protection of AI-Generated Work, In *2024 ITU Kaleidoscope: Innovation and Digital Transformation for a Sustainable World (ITU K)*, New York City, IEEE, 2024, page.8; Ruihan Sun, and Shuhuan Zhou., How much human contribution is needed for "ownership" of AI-generated content: A comparison of copyright determination for generative AI in China and the United States, *The Journal of World Intellectual Property*.

⁴¹ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.290.

⁴² Ranti Fauza Mayana, Tisni Santika, Yin Yin Win, Jamil Adrian Khalil Matalam, and Ahmad M. Ramli., Legal issues of artificial intelligence-generated works: Challenges on Indonesian copyright law, *Law Reform*, Vol.20, no.1, 2024, page.58.

⁴³ Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.32.

⁴⁴ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.291. See too, Firas Massadeh, Fayez Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.55; Karun Sanjaya, and P. R. L. Rajavenkatesan., Artificial intelligence and intellectual property rights A copyright perspective, *Journal of Intellectual Property Rights*, Vol.30, no.1, 2025, page.28; Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.141.

the basis of the Berne Convention and the TRIPS Agreement.⁴⁵

Based on this evaluation, no single ownership model is capable of comprehensively resolving the issue of copyright in AI works. The user ownership model risks recognizing too minimal contributions, the developer model ignores users' creative expression, the platform model has only contractual force, while joint authorship and sui generis rights face conceptual obstacles and face challenges in harmonizing with the principle of human authorship in international copyright law.⁴⁶ The main problem is not simply determining who holds the copyright, but rather the lack of objective legal parameters for assessing the level of human creative contribution in the AI-assisted creation process. This normative vacuum impacts certainty of ownership, licensing, transfer of rights, protection of moral rights, law enforcement, and commercial transactions in the creative industry. Therefore, legal reconstruction needs to be directed at formulating criteria for substantial human creative contribution as a basis for determining copyright ownership. This approach maintains the principle of human authorship while providing legal certainty that is more consistent with the philosophy of the Indonesian Copyright Law and developments in international practice.⁴⁷

3.3. Reconstructing a Human-Centered Copyright Ownership Model for AI-Generated Works: A Comparative Perspective

The development of generative artificial intelligence demonstrates that the primary

⁴⁵ Hafiz Gaffar, and Saleh Albarashdi., Copyright protection for AI-generated works: Exploring originality and ownership in a digital landscape, *Asian Journal of International Law*, Vol.15, no.1, 2025, page.26. See too, Pratiti Nayak, and Kiymet Tunca Çalıyurt., Addressing Copyright Challenges in the Era of AI-Generated Content: What Are the Legal Implications?, In *A Multidisciplinary Approach to KIIT Horizons, Volume 1: Exploring Artificial Intelligence Across Disciplines*, Singapore, Springer Nature Singapore, 2025, page.4.

⁴⁶ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.292. See too, Anthi Gaidartzi, and Irini Stamatoudi., Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.61; Firas Massadeh, Fayez Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.56; Ghazali Hasan Nasakti, and Rianda Dirkareshza., Generative artificial intelligence is not a mere tool: Revisiting Indonesian Copyright Law, *The Journal of World Intellectual Property*, Vol.28, no.2, 2025, page.347.

⁴⁷ Tiyyaba Furqan, Hamda M. Aleissae, Nadirah Ghenimi, and Alya A. Arabi., Global laws governing intellectual property rights for AI-generated works, *Discover Artificial Intelligence*, Vol.3, 2026, page.31. See too, Ranti Fauza Mayana, Tisni Santika, Yin Yin Win, Jamil Adrian Khalil Matalam, and Ahmad M. Ramli., Legal issues of artificial intelligence-generated works: Challenges on Indonesian copyright law, *Law Reform*, Vol.20, no.1, 2024, page.58; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.160; Zehra Özkan Üner, and Pınar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.59.

issue in copyright law is no longer whether AI-based works can be protected, but rather how to determine the subjects who are legally entitled to copyright.⁴⁸ Most modern legal regimes maintain the principle of human authorship, so AI is not recognized as a creator because it lacks legal personality, consciousness, will, or the ability to bear legal rights and obligations.⁴⁹ On the other hand, the development of generative AI has changed the pattern of creation, where part of the creative process is carried out through computing systems capable of generating new expressions based on training large amounts of data. This situation creates a normative vacuum in determining copyright ownership for works produced with the assistance of AI, particularly in the Indonesian legal system, which is still built on the paradigm of the creator as a human.⁵⁰

Various approaches have been developed in the literature to address this issue, but each still suffers from conceptual and normative weaknesses. The joint authorship approach considers AI works as the result of collaboration between humans and AI, but this concept is difficult to implement because AI is not a legal entity capable of possessing moral or economic rights as required by the copyright regime.⁵¹ The work-made-for-hire approach grants rights to those who control or regulate the use of AI, as developed in the UK. However, this model is more suited to contractual relationships and is not fully capable of addressing the open nature of generative AI used by millions of users without an employment relationship with

⁴⁸ Mohammad Abdallah, and Mousa Salah., Artificial intelligence and intellectual properties: Legal and ethical considerations, *International Journal of Intelligent Systems and Applications in Engineering*, Vol.12, no.1, 2024, page.370. See too, Ilyos Abdullayev, Kira Vagner, Olesya Tereshchenko, Alexey Nedelkin, and Vitalii Vasyukov., Opportunities for Developing Natural Language Models in Building Artificial Intelligence Systems to Enhance Educational Process Support, *Pakistan Journal of Life & Social Sciences*, Vol.22, no.2, 2024, page.343.

⁴⁹ Anthi Gaidartzi, and Irini Stamatoudi., Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.63. See too, Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.420; Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.372; Zehra Özkan Üner, and Pinar Çağlayan Aksoy., Navigating AI and Copyright Law in the UK: Legal Frontiers and Emerging Regulatory Perspectives, In *Legal and Economic Perspectives on the Nexus of AI and Copyright*. IGI Global Scientific Publishing, 2025, page.59.

⁵⁰ Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.34. See too, Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.142; Kacper Szkalej, and Martin Senftleben., Generative AI and creative commons licences: the application of share alike obligations to trained models, curated datasets and AI output, *Journal of Intellectual Property, Information Technology and E-Commerce Law*, Vol.15, 2024, page.313.

⁵¹ Karun Sanjaya, and P. R. L. Rajavenkatesan., Artificial intelligence and intellectual property rights A copyright perspective, *Journal of Intellectual Property Rights*, Vol.30, no.1, 2025, page.30. See too, Dwi Tatak Subagiyo, and Hari Wibisono., The urgency of artificial intelligence regulation from a joint authorship perspective on copyright infringement, *Indonesia Private Law Review*, Vol.5, no.2, 2024, page.143.

the AI developer.⁵² Meanwhile, the sui generis approach offers a new legal regime separate from conventional copyright, but requires the creation of a new intellectual property rights system that has not yet achieved international consensus and has the potential to reduce harmonization with the principles of the Berne Convention and the TRIPS Agreement.⁵³ A comparison of the three approaches is presented in Table 3.

Table 3. Comparison of Copyright Ownership Models for Artificial Intelligence Works

Model	Core Principle	Strengths	Limitations	Relevance to Indonesia
Joint Authorship	AI and humans are treated as joint contributors to the creation of a work.	Accommodates collaborative human–AI creation.	AI is not a legal subject and therefore cannot hold moral or economic rights.	Less compatible with Indonesian Copyright Law (Law No. 28 of 2014).
Work Made for Hire	Copyright is assigned to the party that controls or initiates the creation process.	Provides greater legal certainty regarding ownership.	More suitable for employment or contractual relationships than for open generative AI systems.	May be adopted with limited application.
Sui Generis	Establishes a separate legal	Flexible in responding to	Introduces a new	Requires extensive

⁵² Jyh-An Lee., Computer-generated Works under the CDPA 1988, Artificial Intelligence and Intellectual Property (Jyh-An Lee, Reto Hilty & Kung-Chung Liu eds, Oxford University Press, 2021), *The Chinese University of Hong Kong Faculty of Law Research Paper* 2021-65, 2021, page.25. See too, Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.162.

⁵³ Mohammad Abu Baker., Legal Protection for the Use of Artificial Intelligence in Business: Reality and Future Challenges, In *Conference on Sustainability and Cutting-Edge Business Technologies*, Cham, Springer Nature Switzerland, 2025, page.293. See too, Firas Massadeh, Fayez Alnusair, Ali Abdel Mahdi Massadeh, and Mahmoud Ismail., The Legal Protection Of Artificial Intelligence-Generated Work: The Argument For Sui Generis Over Copyright, *Corporate Law & Governance Review*, Vol.6, no.1, 2024, page.56; Pratiti Nayak, and Kiymet Tunca Çaliyurt., Addressing Copyright Challenges in the Era of AI-Generated Content: What Are the Legal Implications?, In *A Multidisciplinary Approach to KIIT Horizons, Volume 1: Exploring Artificial Intelligence Across Disciplines*, Singapore, Springer Nature Singapore, 2025, page.5; Eleni Tzoulia., IP Protection for AI-Generated Content in the "Post-AI Act" Era, In *EU Digital Law in the AI Era*, Cham, Springer Nature Switzerland, 2025, page.137.

Protection	regime specifically for AI-generated works.	technological developments.	intellectual property regime and lacks international consensus.	legislative reform.
Human-Centered Copyright Ownership	Copyright is granted to the human who makes a substantial creative contribution, while AI is treated solely as a creative tool.	Consistent with the principles of human authorship, the Berne Convention, and Indonesian Copyright Law; provides greater legal certainty.	Requires objective criteria to assess substantial human creative contribution.	The most appropriate model as the foundation for copyright law reform in Indonesia.

In contrast to these approaches, this study proposes the Human-Centered Copyright Ownership (HCCO) model as a form of legal reconstruction that maintains the basic principle of copyright: that exclusive rights arise from human creativity, while positioning AI as an instrument or creative tool, rather than as the creator or copyright holder. This model is more consistent with the international copyright philosophy that places human creativity as the basis for protection, while also accommodating the use of AI in modern creative processes without altering the basic structure of the Indonesian copyright system.⁵⁴

The primary advantage of the HCCO model lies in its ability to maintain a balance between legal certainty and the development of innovation. This model does not reject the use of AI in the creative process, but also does not grant legal recognition to AI as the creator. Thus, copyright remains vested in humans as long as it can be demonstrated that the work represents a substantial human creative contribution. This approach aligns with established practices in the United States, the European Union, Japan, Australia, and most countries that continue to require human creative contribution as a basis for copyright protection, although there is

⁵⁴ Satish Kumar, and Akansha Yadav., Recent trends in major world jurisdictions regarding copyright law and works generated by artificial intelligence: A comparative analysis of the European union, the United States, and Japan, In *AIP Conference Proceedings*, AIP Publishing LLC, 2024, page.421. See too, Ranti Fauza Mayana, Tisni Santika, Yin Yin Win, Jamil Adrian Khalil Matalam, and Ahmad M. Ramli., Legal issues of artificial intelligence-generated works: Challenges on Indonesian copyright law, *Law Reform*, Vol.20, no.1, 2024, page.59; Anke Moerland., Intellectual property law and AI, In *The Cambridge Handbook of Private Law and Artificial Intelligence*, Cambridge University Press, 2024, page.373; Irene Stamatoudi., Copyright Protection for AI-Generated Works: Is It Something We Want?, *Cyprus Review* Vol.38, no.1, 2026, page.114.

variation in the degree of human involvement required.⁵⁵

The concept of substantial human creative contribution (SHCC) is central to the proposed model. Unlike the concept of "use of AI," SHCC emphasizes the dominance of human intellectual decisions throughout the entire creation process. Therefore, the use of AI does not automatically eliminate a person's status as creator. The basis for protection is the extent to which humans control, shape, select, modify, and refine the AI-generated output so that the final work truly reflects human intellectual expression.⁵⁶

In order for this concept to be applied objectively in judicial practice, this study proposes several indicators for assessing substantial human creative contribution, namely: (1) humans determine the main ideas, objectives, themes, and concepts of the work; (2) humans actively control the process of using AI, including the preparation, development, and refinement of prompts; (3) humans make creative selections from various alternative AI outputs; (4) humans make substantial modifications, revisions, editing, or developments to the AI output; (5) the final form of the work is the result of human creative choices, not automatic reproduction of AI; and (6) humans are responsible for the content, use, and economic exploitation of the work. All of these indicators are summarized in Table 4.

Table 4. Substantial Human Creative Contribution Assessment Indicators

Indicator	Assessment Parameter
Concept Development	The human determines the core idea, purpose, theme, structure, and principal characteristics of the work.
Process Control	The human actively directs, refines, and controls the use

⁵⁵ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.121. See too, Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.358; Chenyu Lin, and Junming Gong., Artificial intelligence for text generation: copyright analysis and intellectual property development, In *International Conference on AI-Generated Content (AIGC 2024)*, SPIE, 2025, page.101; Hernán Núñez Rocha., Artificial Intelligence and Copyright Law, Notes on Content Generation, *Boletín mexicano de derecho comparado*, Vol.58, no.174, 2025, page.324; Seiya S. Takeuchi., Japan's legal framework for copyright protection of AI-generated works: A comparative law analysis exploring the possibility of Japan's adoption of the UK legislative approach, *The Journal of World Intellectual Property*, Vol.28, no.2, 2025, page.327.

⁵⁶ Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.359. See too, Anthi Gaidartzi, and Irini Stamatoudi., Authorship and ownership issues raised by AI-generated works: a comparative analysis, *Laws*, Vol.14, no.4, 2025, page.64; Komalavalli C., Rinki Bhati, R., Akhilesh Kumar Khan, and Arun Kumar Tripathi., *Smart contracts for AI-generated art rights*, *ShodhKosh: Journal of Visual and Performing Arts*, Vol.6, no.1, 2025, page.46; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.164.

	of AI throughout the creative process.
Output Selection	The human selects AI-generated outputs based on independent creative judgment.
Substantial Modification	The human significantly revises, edits, combines, or further develops the AI-generated output.
Final Creative Decision	The final form of the work reflects the human's intellectual choices rather than the AI's automatic generation.
Legal Responsibility	The human assumes legal responsibility for the content, use, and commercial exploitation of the work.

Through these indicators, the assessment of copyright ownership no longer solely focuses on the presence or absence of AI in the creative process, but rather on the level of human intellectual contribution in shaping the final expression of a work. For example, if an illustrator uses AI to generate several alternative designs, then selects one design, changes the visual composition, adds artistic elements, makes substantial edits, and determines the final character of the work, then the human creative contribution remains dominant and the illustrator deserves to be recognized as the creator and copyright holder. Conversely, if someone only enters one or two prompt sentences and immediately uses the AI output without any creative choices, process control, or substantial modifications, then the relationship between the work and human creativity becomes too weak to meet the principles of originality and human authorship as the basis for copyright protection.⁵⁷

The HCCO model also provides greater legal certainty than other alternative models. First, AI users gain certainty regarding the requirements for obtaining copyright, so the use of AI does not automatically eliminate legal protection.⁵⁸ Second, AI developers do not automatically acquire copyright over all output from AI systems unless there is a separate legal relationship through a contract or other provisions. Third, judges gain more objective parameters in determining copyright ownership status, thereby reducing disparities in decisions. Fourth, creative industry players gain certainty regarding the boundary between the use of AI as an assistive tool and the use of AI that produces automated works without

⁵⁷ Marija Ampovska., Judicial Responses to AI-Generated Works: A Comparative Case Law Analysis on Copyright, *Review of European and Comparative Law*, Vol.62, no.3, 2025, page.122. See too, Johannes Fritz., Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law and Practice*, Vol.20, no.5, 2025, page.359; Kenneth Bradley Sajogo, Fajar Sugianto, and Atsuko Yamamoto., Comparative Analysis Regarding the Copyright Law on AI-Generated Art Between Indonesian and the United States: Unpacking Indonesian Legal Framework Conundrum, *Jurnal Hukum Bisnis Bonum Commune*, no.2, 2025, page.221; Irene Stamatoudi., Copyright Protection for AI-Generated Works: Is It Something We Want?, *Cyprus Review* Vol.38, no.1, 2026, page.119; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.167.

⁵⁸ Michelle Azuaje Pirela., Legal protection of artificial intelligence products in the intellectual property system, *Revista Jurídica Austral*, Vol.1, 2020, page.319.

copyright protection.⁵⁹

For this model to be effectively implemented, reform of Law Number 28 of 2014 concerning Copyright is required. This reform does not require changes to the basic philosophy of copyright, but rather simply refines the norms to accommodate the development of generative AI. First, Article 1, concerning the definition of creator, needs to be expanded to include the concept of AI-assisted works and emphasize that creators remain humans who make substantive creative contributions. Second, Article 5, concerning moral rights, needs to emphasize that moral rights are inherent only to humans even if the work is produced with the assistance of AI. Third, Articles 8 and 9, concerning economic rights, need to provide the basis that economic rights to AI-assisted works are granted to humans who meet the SHCC standards. Fourth, Article 40, concerning objects of creation, needs to be expanded to accommodate AI-assisted works as a category of works that can still receive protection as long as they meet the requirements for human creative contributions. Fifth, new provisions need to be added that regulate SHCC assessment indicators as a legal standard in examining AI-based copyright disputes. These reform strategies are summarized in Table 5.

Table 5. Copyright Law Reform Strategy for Artificial Intelligence Works

Provision of Law No. 28 of 2014	Current Issue	Proposed Reform
Article 1(2) (Author/Creator)	Does not accommodate AI-assisted works.	Introduce a definition of AI-assisted works and incorporate the concept of Substantial Human Creative Contribution (SHCC).
Article 5 (Moral Rights)	Does not regulate the use of AI in the creation process.	Clarify that moral rights remain exclusively vested in the human author, regardless of AI assistance.
Articles 8–9 (Economic Rights)	Does not regulate ownership of AI-generated outputs.	Provide that economic rights belong to the human who satisfies the SHCC standard.
Article 40	Does not explicitly	Include AI-assisted works as a

⁵⁹ Anuttama Ghose, SM Aamir Ali, and Sachin Deshmukh., Navigating the legal and ethical framework for generative AI: Fostering responsible global governance, In *Exploring the Ethical Implications of Generative AI*, Pennsylvania: IGI Global Scientific Publishing, 2024, page.169. See too, Amanda M. Horzyk, How AI affects our understanding of musical works that should be protected by copyright, In *2023 international joint conference on neural networks (IJCNN)*, IEEE, 2023, page.7; Singh Hoshiar, and Sharma Kiran., Copyright in the Age of Artificial Intelligence: Unravelling the Complexities For the Protection of AI-Generated Work, In *2024 ITU Kaleidoscope: Innovation and Digital Transformation for a Sustainable World (ITU K)*, New York City, IEEE, 2024, page.9; Nadia Yas, Hani Abdulrahim, Issa Ghassan Rabadi, and Zeana Abdijabar., Protecting the civil rights of the author from the risks of artificial intelligence, *Research Journal in Advanced Humanities*, Vol.6, no.1, 2025, page.25.

(Protected Works)	recognize AI-assisted works.	protected category, provided they satisfy the requirement of substantial human creative contribution.
New Provision	No legal standard for assessing human creative contribution.	Introduce legal criteria for SHCC as guidance for courts and the Directorate General of Intellectual Property (DGIP) in determining copyright ownership of AI-assisted works.

In addition to changes to the Copyright Law, implementation of this model requires the preparation of interpretive guidelines for judges and the Directorate General of Intellectual Property regarding procedures for proving human creative contributions. Such guidelines may include initial proof of concept, history of prompt development, editing process, documentation of changes to the work, as well as evidence of creative decision making during the creation process. This approach will increase the consistency of decisions, strengthen legal certainty, while reducing subjectivity in determining copyright ownership status for AI-based works.⁶⁰

Thus, the Human-Centered Copyright Ownership model not only fills the normative void in Indonesian copyright law, but also offers a legal reconstruction that remains consistent with the principle of human authorship, is in line with developments in international law, and is more adaptive to advances in AI technology. Compared to joint authorship, work made for hire, or sui generis approaches, this model provides a more proportional solution because it does not change the basic structure of copyright law, but clarifies the parameters of rights ownership through substantial human creative contribution standards that can be applied objectively in judicial practice and policy formation. Therefore, this model is worthy of being used as a basis for updating Law Number 28 of 2014 in order to realize legal certainty, protect human creativity, and encourage sustainable artificial intelligence-based innovation.

4. Conclusion

This research demonstrates that Law Number 28 of 2014 concerning Copyright has not yet provided legal certainty regarding copyright ownership for works produced with the assistance of artificial intelligence (AI). The entire construction of Indonesian copyright law is still based on the human authorship paradigm, so

⁶⁰ Sitti Fatimah Maddusila, Deni Hendrawan, and Andi Intan Purnamasari., Copyright Restrictions in Social Media Markets: A Legal Enforcement Challenge, *International Journal of Criminal Justice Sciences*, Vol.19, no.2, 2024, page.37. See too, Ranti Fauza Mayana, Tisni Santika, Yin Yin Win, Jamil Adrian Khalil Matalam, and Ahmad M. Ramli., Legal issues of artificial intelligence-generated works: Challenges on Indonesian copyright law, *Law Reform*, Vol.20, no.1, 2024, page.59; Chrisna Bagus Edhita Praja, Budi Agus Riswandi, Sri Wartini, Hary Abdul Hakim, and Gerald Antang Espares., Authorship and Ownership of AI-Generated Works in Indonesia: A Doctrinal and Comparative Review, *Jurnal Media Hukum*, Vol.32, no.1, 2025, page.167.

the concepts of creator, originality, moral rights, and economic rights are entirely linked to human creativity. This situation creates a normative vacuum when AI plays a significant role in the creation process, potentially giving rise to ownership disputes, inconsistent interpretations, and legal uncertainty for creators, AI users, technology developers, and creative industry players.

Theoretically, this research contributes by developing the Human-Centered Copyright Ownership (HCCO) model as a normative reconstruction of copyright ownership for AI-assisted works. Unlike the joint authorship, work-made-for-hire, and sui generis approaches, this model maintains the fundamental principle that copyright arises from human creativity, while AI is positioned as an instrument supporting the creative process. The main novelty of this research lies in the introduction of the concept of substantial human creative contribution as a legal standard for determining whether human involvement remains sufficiently dominant to warrant copyright protection. Thus, this study not only identifies gaps in Indonesian positive law but also offers more objective normative parameters for determining copyright ownership of AI-assisted works.

Practically, the proposed model can serve as a guideline for legislators, judges, the Directorate General of Intellectual Property, and creative industry players in resolving copyright ownership issues for AI-assisted works. Therefore, this study recommends reforming the Copyright Law by adding provisions regarding AI-assisted works, establishing indicators for substantial human creative contribution, and providing clearer guidelines for determining copyright ownership. These reforms are expected to strike a balance between protecting human creativity, legal certainty, and fostering technological innovation, ensuring that Indonesia's copyright legal system remains relevant in the face of future developments in artificial intelligence.

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