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Artificial Intelligence, Innovation, and Copyright: Comparing Intellectual Property Law in Indonesia and South Korea

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Abstract

The rapid advancement of Artificial Intelligence (AI) is reshaping industries globally, raising critical questions about the intersection of technology, law, and innovation. In particular, AI's ability to autonomously generate creative works challenges traditional concepts of authorship, ownership, and intellectual property (IP) rights. As AI technologies continue to evolve, existing legal frameworks, particularly in the realm of copyright, struggle to keep pace. This issue is especially pronounced in countries like Indonesia, where traditional copyright laws fail to address the complexities introduced by AI-generated content. In contrast, South Korea has made notable strides in reforming its IP laws to accommodate technological advancements, offering a more adaptive approach to regulating AI-driven innovation. This study critically analyzes the

adequacy of copyright regulations in Indonesia in the context of AI and compares them with South Korea's more progressive legal responses. The research addresses the urgent need for legal reform in Indonesia to ensure that its IP laws remain relevant in an era of rapid technological change. By examining the regulatory responses of both countries, this study highlights the potential risks and opportunities for innovation that arise from the current legal landscapes. The contribution of this research lies in its comparative approach, shedding light on how differing legal systems address the challenges posed by AI. Through this analysis, the study provides valuable insights into how Indonesia can evolve its copyright framework to foster innovation while protecting the rights of creators, offering a model for countries facing similar technological and legal challenges.

KEYWORDS *Artificial Intelligence, Legal Protection, Copyright*

Introduction

Artificial Intelligence (AI), is no longer qualified as a concept of the future as it has been in the last few decades. Considering that in the empirical practice that is happening today, AI as a transformative technology has basically been applied to various aspects of human life, from health and education to finance and entertainment. AI today has included a wide range of technologies that allow machines to perform tasks that previously required human intelligence, such as learning, reasoning, problem-solving, perception, and language comprehension. The increase in AI is driven by advances in machine learning,[1] *deep learning*, and *big data*, and is supported by increased computing power. These developments have resulted in AI systems that are capable of generating creative works, making complex decisions, and even creating new technologies.[2]

In Indonesia, the integration of AI into various sectors has accelerated in recent years, driven by government initiatives and private sector innovation, one

[1] Muttaqin, Muttaqin. et al., *Implementation of AI in Life*. (Medan: Yayasan Kita Menulis, 2023).

[2] Rawas, Soha. "AI: The Future of Humanity," *Discover Artificial Intelligence* 4, no. 1 (2024), https://doi.org/10.1007/s44163-024-00118-3; Ekperi, Mark D., and P. Z. Alawa. "Martin Heidegger on Technology: Implications for Artificial Intelligence." *South-South Journal of Humanities and International Studies* 7, no. 1 (2024): 509-522.

of which can be seen from the real form of cooperation between SpaceX CEO Elon Musk and President Joko Widodo in order to build and develop an artificial intelligence center called Eurika AI in Indonesia. The integration carried out by the Government of Indonesia directly acknowledges that the potential of AI to drive economic growth and development has a significant role, especially in the field of innovation reform which in other contexts is also proven by the inclusion of AI as a key component in the roadmap *Making Indonesia 4.0*.[3] This initiative aims to position Indonesia as one of the global players in the digital economy by utilizing AI and other advanced technologies to increase productivity, innovation, and competitiveness in various industries.[4]

The rapid deployment of AI technology in various countries, including Indonesia, in turn has a significant impact related to legal and regulatory challenges. As AI systems increasingly take on roles that are generally performed by humans, this raises complex questions that are closely related to ethics, accountability, legal responsibility, and protection of intellectual property (hereinafter referred to as IP) in Indonesia. These questions are becoming important especially in the realm of IP law, where the traditional legal framework that prevails today, is no longer adequate to address the unique characteristics of AI-generated works and inventions. This has led to a growing recognition of the need for IP legal reform in Indonesia to ensure that the legal system can be effective in balancing the promotion of innovation on the one hand, while maintaining legal certainty on the other.

Legal optics in Indonesia are related to the specific IP legal framework for copyright platforms, basically regulated by Law of the Republic of Indonesia Number 28 of 2014 concerning Copyright (hereinafter referred to as UUHC 2014). The law is designed to protect the rights of creators and inventors, promote fair competition, and encourage the dissemination of knowledge and innovation.[5] However, in the dimension of empirical practice that is happening

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[3] Cabinet Secretariat of Republic of Indonesia. "President Jokowi, Elon Musk Discuss Investment Development Potentials in Indonesia", *Online News Cabinet Secretariat of Republic of Indonesia,* May 20, 2024. Online at https://setkab.go.id/en/president-jokowi-elon-musk-discuss-investment-development-potentials-in-indonesia/

[4] Ministry of Industry Republic of Indonesia. "Making Indonesia 4.0: Strategi RI Masuki Revolusi Industri Ke-4", *Press Release,* March 20, 2018. Online at https://kemenperin.go.id/artikel/18967/making-indonesia-4.0:-strategi-ri-masuki-revolusi-industri-ke-4; Coordinating Ministry for Economic Affairs. *Buku Putih Strategi Nasional: Pengembangan Ekonomi Digital Indonesia 2030.* (Jakarta: Kementeriaan Koordinator Bidang Perekonomian Republik Indonesia, 2023).

[5] Antons, Christoph. "Copyright law reform and the information society in Indonesia." *Copyright law, digital content and the internet in the Asia-Pacific* (2008): 235-55.

today, the law as referred to is not developed in the context of law and technology by taking into account the capabilities and implications of AI.

Remembering, the regulation does not provide an overview that in the course of IP, especially in the context of copyright, it is possible to be created by non-human entities that produce creative works and inventions, which raises fundamental questions about the authorship, ownership, and scope of copyright protection as part of the IP regime.[6] Thus, it can be emphasized at the beginning that the current IP legal regulations in Indonesia, which are specific to copyright, are still qualified in the context of traditional legal platforms because they lay the main foundation in their regulation based on the fact that creation and invention are human activities, and often require human authorship or invention as a condition of protection.[7]

In the dimension of general law doctrine, it is known that legal certainty is the basic principle of an effective legal system. This certainty provides predictability and stability, allowing individuals and business sectors to plan their activities with confidence in adequate legal protection. In the context of IP law, legal certainty is very important to encourage innovation, because it ensures that creators and inventors can protect rights and reap the benefits of the efforts made by the legal subject in question. However, uncertainty regarding the application of existing IP law to AI-generated works and inventions undermines this principle, creating a depressive effect on innovation. One of the main challenges in the discussion of AI and IPR in this study is to determine the legal status of works and inventions produced by AI, especially those related to copyright. As a preliminary illustration, copyright law traditionally recognizes the author as the person who created the original work.

However, when AI systems produce works independently or with minimal human input, referring to the current 2014 UUHC regulations, it actually gives

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[6] Kumala, Ida Ayu Ratna, and Ida Ayu Putu Sri Astiti Padmawati. "Optimalisasi Kekayaan Intelektual (KI) Sebagai Jaminan Utang dalam PP No. 24 Tahun 2022." *Jurnal Yusthima* 4, no. 1 (2024): 242-153. *See also* Jafar, Faisal Herisetiawan. "Optimizing Intellectual Property as a Fiduciary Security Object After the Issuance of Governmental Regulation No. 24 of 2022." *Law Research Review Quarterly* 9, no. 3 (2023): 377-398.

[7] Darnia, Meriza Elpha, et al. "Perlindungan Hak Kekayaan Intelektual di Era Digital." *Journal of Education Religion Humanities and Multidiciplinary* 1, no. 2 (2023): 411-419; Amboro, FL Yudhi Priyo, and Khusuf Komarhana. "Prospek Kecerdasan Buatan Sebagai Subjek Hukum Perdata Di Indonesia [Prospects of Artificial Intelligence as a Subject of Civil Law in Indonesia]." *Law Review* 21, no. 2 (2021): 145-172; Jaya, Febri, and Wilton Goh. "Analisis Yuridis Terhadap Kedudukan Kecerdasan Buatan Atau Artificial Intelligence Sebagai Subjek Hukum Pada Hukum Positif Indonesia." *Supremasi Hukum* 17, no. 2 (2021): 01-11.

birth to legal problems related to the unclear subject of *who* should be considered as the author. Should the AI system itself, the AI developer, the user providing the input data, or any other party? If an AI system creates a work that falls under the protection of the 2014 UUHC regime, should the AI be recognized as the creator, or should the work be attributed to the individual who developed or operated the AI? These questions have significant implications for the protection and enforcement of copyright law as part of IP. If AI-generated works and inventions are not adequately protected by existing IP laws, this can undermine incentives for innovation and lead to uncertainty, which can lead to the creation of such copyright conflicts. On the contrary, granting IP rights to AI-generated creations has implications for raising concerns about excessive copyright extensions in IP and the potential for monopolistic practices.

Some studies revealed and emphasized that copyright regulations in Indonesia as contained in the 2014 UUHC are qualified as a traditional legal framework, one of the main factors is because the copyright regulation is no longer adequate to overcome the unique characteristics of works and creations produced by AI, and is increasingly supported by the factual condition of Indonesia as a developing country.[8] With this hypothesis, this study will further try to compare the construction related to copyright regulation to the recognition and protection of AI-generated works and creations in South Korea. The main argument for comparing the legal system for copyright protection generated by AI by choosing South Korea is based on at least several things, including: *First*, increase awareness of copyright recognition. It is known that

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[8] Chrisanti, Nadya Dewi, and Hariyo Sulistiyantoro. "Analisis Perlindungan Hukum Hak Cipta Karya Seni Buatan Artificial Intelligence Ditinjau Pada Negara Indonesia, Inggris, dan Kanada (Studi Komparatif di Indonesia, Inggris, dan Kanada)." *Kabillah: Journal of Social Community* 9, no. 2 (2024): 132-143. *See also* Riswandi, Budi Agus. "Patent Protection System for Computer Programs in Indonesia and Its Comparison with Several Countries: What's the Issue?." *NTUT Journal of Intellectual Property Law and Management* 9, no. 1 (2020): 18-33; Rama, Bagus Gede Ari, Dewa Krisna Prasada, and Kadek Julia Mahadewi. "Urgensi Pengaturan Artificial Intelligence (AI) dalam Bidang Hukum Hak Cipta di Indonesia." *Jurnal Rechtens* 12, no. 2 (2023): 209-224; Setiawati, Diana, and Nikita Kimberly Huang. "Intellectual Property Rights Analysis in the Context of Artificial Intelligence Development in the Indonesian Legal Context." *E-Justice: Journal of Law and Technology* 1, no. 1 (2024): 81-94; Gema, Ari Juliano. "Masalah Penggunaan Ciptaan Sebagai Data Masukan dalam Pengembangan Artificial Intelligence di Indonesia." *Technology and Economics Law Journal* 1, no. 1 (2022): 1-17. *See also* Darmantho, Adhitya. "Copyright in the Art Industry: Ethical and Management Challenges for Artwork Protection." *Jurnal Seni Musik* 13, no. 1 (2024): 42-58.

South Korea is one of the countries with a high level of awareness of copyright recognition, which is also one of the main instruments in digital innovation in the country. *Second*, the cooperative relationship between Indonesia and South Korea in the field of copyright protection. It is known that on September 10, 2024, the Directorate General of Intellectual Property (DJKI), Ministry of Law and Human Rights (*Kemenkumham*) of the Republic of Indonesia, together with The Copyright Bureau of Ministry of Culture, Sports and Tourism (MCST), officially signed a Memorandum of Understanding (MSP) on Cooperation in the Field of Copyright Protection with various components of the agreement, one of which is sharing best practices in handling cases digital copyright infringement.[9]

This research is a normative legal research, with a legislative approach, conceptual approach and a comparative approach which is specifically aimed at examining 2 (two) main legal problems related to the formulation of intellectual property law protection in Indonesia and South Korea against copyright generated by AI and the projection of intellectual property law protection in Indonesia against copyright generated by AI.

Importance of Intellectual Property (IP) Law in Promoting Innovation

Intellectual Property law (IP law) plays an important role in stimulating innovation by granting legal protections to individuals, inventors and companies. It establishes an environment where individuals and enterprises feel free to develop innovative ideas, products and technology without fear of immediate imitation. It is therefore easy to see how IP law attempts to balance the incentive to create against the incentive to innovate (i.e., create new things, from previous things): it provides exclusive rights to creators for a time-limited period, so that innovations get rewarded, but do not get locked away forever,

[9] Sari, Nuzulia Kumala, Ayu Citra Santyaningtyas, and Anisah Anisah, "Orisinalitas Karya Cipta Lagu dan/atau Musik yang Dihasilkan Artificial Intelligence," *Jurnal Ilmiah Kebijakan Hukum* 17, no. 3 (2023): 365-284; Astawa, I. Gede Putu Harry Gelary, and I. Gede Agus Kurniawan. "The Regulation Reform of Intellectual Property Following the Advancement of Artificial Intelligence: Guidance and Reevaluation." *Pena Justisia: Media Komunikasi dan Kajian Hukum* 23, no. 3 (2024): 653-670. *See also* Rachmadie, Donovan Typhano. "Regulasi Penyimpangan Artificial Intelligence Pada Tindak Pidana Malware Berdasarkan Undang-Udang Republik Indonesia Nomor 19 Tahun 2016." *Recidive: Jurnal Hukum Pidana Dan Penanggulangan Kejahatan* 9, no. 2 (2020): 128-156.

out of reach of all further research and development in all fields.[10] Without strong, intelligible protections for IP, many innovators will be deterred from investing the time, energy and future-oriented research to perform the tasks in the first place, as they will endanger their competitive advantage.[11]

Protecting Intellectual Property Drives Research and Development. Creating new technologies, medicines, and artistic works typically involves significant monetary and cognitive work. If companies and individuals do not receive adequate protection for their inventions, they may find it difficult to secure funding or justify the costs associated with innovation.[12] Such legal structures as patents, copyrights, trademarks, and trade secrets create legal moldings that enable innovators to monetize their creations, guaranteeing that they are able to enjoy the fruits of their labor and continue creating new concepts. IP law plays a crucial part in stimulating healthy competition, too. If companies and individuals own their innovations, they will push for continuous improvement and innovation to recover their market position.[13] The result is that competitors are motivated to create alternatives or to improve existing technologies rather than simply copy market-succeeding products. This competitive environment spurs technological innovation and ultimately delivers a variety of high-quality, high-value products to the consumer.[14]

In many sectors, they can legally use such copyrighted materials while still compensating the original creators through licensing agreements, and thus there is a compromise between exclusivity and the knowledge being shared. Strong IP protections not only benefit businesses and individuals, but they can also positively affect national economies. Effective IP laws are good for economy:

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[10] Landes, William M., and Richard A. Posner. *The Economic Structure of Intellectual Property Law*. (Cambridge, MA: Harvard University Press, 2003); Lemley, Mark A., and John F. Duffy. "Property, Intellectual Property, and Free Riding/Comment/Reply." *Texas Law Review* 83, no. 4 (2005): 1031-1075; Article 7 "Annex 1c Agreement on Trade-Related Aspects of Intellectual Property Rights Part I General Provisions and Basic Principles Part II Standards Concerning the Availability, Scope and Use of Intellectual Property Rights" (1994). Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

[11] Lemley and Duffy. "Property, Intellectual Property, and Free Riding."

[12] Jaffe, Adam B., and Josh Lerner. "Innovation and its discontents." *Capitalism and Society* 1, no. 3 (2006): 27-65.

[13] Blair, Roger D. and Thomas F. Cotter, *Intellectual Property: Economic and Legal Dimensions of Rights and Remedies* (Cambridge, MA: Cambridge University Press, 2005); Shapiro, Carl. "Navigating the patent thicket: Cross licenses, patent pools, and standard setting." *Innovation Policy and the Economy* 1, no. 1 (2000): 119-150.

[14] Bessen, James and Michael James Meurer. *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk*. (Princeton: Princeton University Press, 2008).

They attract Foreign Direct Investment (FDI), which helps the tech ecosystem thrive. So multinational corporations are more willing to set up research centers and production plants across places that respect and enforce their IP rights. This leads to economic growth, creates job opportunities, and overall technological development of a country.[15]

IP law is also important in protection of culture and art. Copyright laws, for example, protect the rights of authors, musicians, filmmakers, and other creators of creative works, ensuring that they are acknowledged and compensated for their work.[16] This safeguard inspires artists to engage in creating high-quality works, contributing to cultural heritage and maintaining rich artistic diversity. Without these protections, piracy and unauthorized reproduction has the potential to destroy creative industries making it difficult for artists to create their crafts.

IP rights are another fundamental aspect of IP law system as they act as catalysts to promote entrepreneurship and start-up culture. Many start-ups use their unique ideas, their software and their branding to differentiate themselves in the market.[17] Filing for patents, trademarks, and copyrights allows these small businesses to define who they are and keep larger competition from stealing their original ideas and business concepts. Robust protections for intellectual property give start-ups, not only entrepreneurs with new ideas, but also the investors who help bring those ideas to scale — the confidence to bring new solutions to market, without a constant fear of intellectual theft looming over them.

Furthermore, IP law promotes the pharmaceutical and health care sectors by providing incentives for the creation of new medicines, therapies, and medical technologies. Drug discovery and clinical trials can be highly costly and time-consuming processes that take years to produce results. The patent system

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[15] OECD, "Licensing of IP Rights and Competition Law" (London, April 29, 2019), http://www.oecd.org/daf/competition/licensing-of-ip-rights-and-competition-law.html.

[16] Wendland, Wend B. "Intellectual property and the protection of traditional knowledge and Cultural expressions." In *Art and Cultural Heritage Law, Policy and Practice.* (New York: Cambridge University Press, 2006), pp. 327-339; Irawan, Candra. "Protection of traditional knowledge: A perspective on Intellectual Property Law in Indonesia." *The Journal of World Intellectual Property* 20, no. 1-2 (2017): 57-67.

[17] Rushing, Francis W., and Mark A. Thompson. "Intellectual property protection, entrepreneurship, and economic growth." *Journal of Enterprising Culture* 4, no. 3 (1996): 267-285. *See also* Payumo, Jane G., et al. "An entrepreneurial, research-based university model focused on intellectual property management for economic development in emerging economies: The case of Bogor Agricultural University, Indonesia." *World Patent Information* 36 (2014): 22-31.

at least offers pharmaceutical companies a return on these investments in the form of temporary market exclusivity.[18] On the contrary, this frees up resources to allow for more innovation in healthcare, resulting in breakthroughs that benefit the public health and quality of life of millions across the globe

There is also one more important feature of the IP law that is in effect helping in developing entrepreneurship and start-up culture. A lot of start ups differentiate themselves in the market with a unique idea, unique software, and a unique branding. Securing patents, trademarks and copyrights can help these small businesses establish their own identity and protect their innovations from competitors with deeper pockets. Strong IP protections give start-ups spur of fear, allowing them to bring novel solutions so attract finance and develop their companies without being paranoid of mental robbery.

Simultaneously, the evolution of artificial intelligence (AI) is injecting an additional layer of complexity into the dialogue about intellectual property. Creatively produced works via AI generate new issues of authorship, ownership, and copyright protection. As algorithms grow more sophisticated and able to roughly approximate human creativity, generating everything from music to literature to artwork without direct human involvement, it is not always clear who owns these creations, if anyone. This uncertainty is putting traditional IP frameworks to the test, which are generally built on the sole assumption that a human creator is responsible for producing the work. However AI-generated content challenges that assumption and blurs the line between a human creations and robot creations. Is there a human author to which these AI outputs belong to, and how should enforcement of copyright function when a work is entirely created by an algorithm?[19]

As AI continues to evolve and produce innovative works, the legal system will have to adapt to the issue of copyright for creativity generated by AI. Not doing so may lead to ambiguous legal environments that could dissuade risk-taking innovators from developing and pursuing AI powered solutions. Meanwhile, overly broad or restrictive rules could stifle the collaborative,

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[18] Cullet, Philippe. "Patents and medicines: the relationship between TRIPS and the human right to health." *International Affairs* 79, no. 1 (2003): 139-160; Adakawa, Murtala Ismail, and N. S. Harinarayana. "Insight Into Intellectual Property in Patent Medicine: An Indian Perspective." *Unnes Law Journal* 8, no. 2 (2022): 377-391. *See also* Masrur, Devica Rully, and Ogah Chinyere Constance. "Drug Patent Monopoly During Covid-19 Outbreaks: How the Government Regulates this?." *Journal of Private and Commercial Law* 7, no. 1 (2023): 97-128.

[19] Perel, Maayan, and Niva Elkin-Koren. "Accountability in Algorithmic Copyright Enforcement." *Stanford Technology Law Review* 19, no. 3 (2017): 473-533

iterative nature of AI research and its open-source culture, which are both a necessary ingredient in speeding up technological progress. The challenge will be to balance these interests and find a way to allow AI to be a source of innovation while also respecting the rights of those who create content and contributing factors to creative work.

Moreover, complex copyright issues also arise here, as well, in relation to the training of AI models. Large language models, image generators and other kinds of A.I. systems use vast datasets, often casually scraped from publicly available text, images and other media, to learn and get better. The legality of such datasets, particularly ones that include copyrighted content, is in a grey area at best.[20] Determining whether the ingestion and transformation of protected works constitute fair use (or an equivalent legal exception) is still an evolving question, with courts and legislatures around the world offering varying interpretations. Yet there are questions as well regarding how original its output can be, given that the technology's foundation rests upon a body of previous work. If an AI system reuses or closely imitates someone's original material, it may infringe on the copyright of that work. If the output generated by the AI is sufficiently transformative, however, it may qualify for protection as an original work.[21] This tension makes clear there is a need for a distinction between what constitutes authorship and appropriate usage in AI-based processes.

Within this context, both the industry stakeholders and open-source communities have started to investigate regarding the ethical frameworks and licensing models that speak directly to AI-generated content.[22] These initiatives aims to make ownership rights, data use agreements, and attribution requirements explicit, all of which would help navigate the evolving legal landscape. By engaging proactively with these emerging norms, innovators can support making sure the benefits of AI remain broadly available, while also balancing that goal with respecting the legitimate interests of rights holders. Finding this delicate scale between the stimulation of vigorous, AI-led

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[20] Rosati, Eleonora. "Copyright as an obstacle or an enabler? A European perspective on text and data mining and its role in the development of AI creativity." *Asia Pacific Law Review* 27, no. 2 (2019): 198-217.

[21] Benjamin, Walter, and Michael W. Jennings. "The work of art in the age of its technological reproducibility [first version]." *Grey Room* 39 (2010): 11-37.

[22] *See* Mohamed, Yasir Abdelgadir, et al. "Navigating the Ethical Terrain of AI-Generated Text Tools: A Review." *IEEE Access* (2024); Huang, Ken, and Winston Ma. "Legal and Ethics responsibility of ChatGPT." *Beyond AI: ChatGPT, Web3, and the Business Landscape of Tomorrow*. (Cham: Springer Nature Switzerland, 2023), pp. 329-353.

innovation, coupled with the protection of intellectual property rights will ultimately help in designing a flourishing, inclusive digital ecosystem.

The Inadequacy of Traditional Copyright in Indonesia AI-Generated Works

With tons of groundbreaking achievements happening in the field of AI, something to be noted is that the creative field has also become a new frontier for AI-generated content. Nevertheless, Indonesia's existing copyright law is still too way behind in regulating the legal status of the work. The ongoing legal structure, under Law Number 28 of 2014 on Copyrights, literally operates on the belief that copyrights can only be established by (and to) the human creators. This inherent limitation leads to legal ambiguity about the ownership, protection, and commercial use of AI-generated content, posing serious challenges for enterprises, content contributors, and regulators alike.

Yet, one major problem with the law in Indonesia relates to whether AI-generated works are deserving of copyright protection or not, as current copyright laws in Indonesia do not explicitly mention this. Traditionally, original and creative labor have been separate requirements for copyrightability, and that has always piggybacked on human authorship. But AI systems can now autonomously create literature, music, visual art and even software code, leaving the line between human and machine creativity less clear. Because machines lack legal personhood, and thus cannot hold property, it is not clear whether works generated by AI should hold under current copyright laws, or be in the public domain.

Indonesia's copyright law also does not address the question of authorship in cases of AI involvement in the creative process. Where AI proponents argue that AI is to be treated as a creator, we label it a tool to assist creators and the copyright ownership may reasonably rest with the human user or creative, human user.[23] But in instances in which AI generates content on its own, without the guidance of a human, the law is unclear on who deserves the copyright. This legal ambiguity may create difficulties for corporations that are making large investments in the future of AI generated content as it will be impossible for the company to establish exclusivity over their AI generated output.

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[23] Aragon, Lorraine V., and James Leach. "Arts and owners: Intellectual property law and the politics of scale in Indonesian arts." *American Ethnologist* 35, no. 4 (2008): 607-631.

One of the significant challenges surrounding AI-generated content is the enforcement of copyright protections. As a significant risk, AI-generated works might unintentionally reproduce or derive elements from copyrighted works that are part of the datasets used for training AI models, and thus, any subsequent AI generated product may infringe a pre-existing work without authorization. That raises complicated legal issues of copyright infringement and fair use. Copyright infringement under Indonesia's existing laws turns on the direct copying or unauthorized use of a work, but the role of AI in the creative process is not directly addressed in the Indonesian context and this leads to further legal uncertainty.[24]

The failure of Indonesia's copyright laws further undermined the commercial viability of AI generated works. Lacking well-defined protections, businesses and producers could be reluctant to allocate resources toward producing content via artificial intelligence, worrying that their works may not obtain any legal consideration or may be appropriated by third parties without repercussions. Questions about who owns the AI and whether content shall be used to train it could slow the use of such technologies in the creative industries and thus pose Indonesia a disadvantage in the global digital economy.

Additionally, the lack of AI-related specific copyright laws leads to a more complicated dispute resolution. For instance, if a company has used an AI tool to create a work that is found to infringe on copyright, it can be difficult for the courts to apply existing legal principles to establish rightful ownership and liability. Since AI-generated content operates in a legal gray area, and no two laws have the same interpretation of the situation, we may also face blatant inconsistencies that will only lead to unnecessary delays in legal processes while discouraging innovation. In a more international frame, we have seen some countries already beginning to tackle the question of AI-generated works with legislative reform and policy discussions. Take the US, the copyright office required that a significant human involvement has to be included for a work to be granted copyright protection. Therefore, works generated entirely through artificial intelligence, do not qualify for copyright protection, while the European Union is making strides toward establishing legal frameworks for A.I. in the creative sector. On the other hand, Indonesia has not been able to come

[24] Balik, Agustina, et al. "Registration of Copyright as Guarantee of Batik Motif Legal Protection (Comparation Study of Indonesia, Malaysia and Thailand)." *Journal of Indonesian Legal Studies* 8, no. 1 (2023): 1-44; Dwisvimiar, Inge, Dede Agus, and Maulia Tasyafa Audry. "Development of Traditional Cultural Expressions of Patingtung Art from the Aspects of Copyright and Advancement of Culture." *Pandecta Research Law Journal* 18, no. 1 (2023): 1-14.

up with any definitive regulations regarding AI-generated content, underscoring the urgent need for legal reform to keep up with the rapid pace of technological innovation.

The lack of specific copyright-related regulations in Indonesia does however also affect the state of intellectual property (IP) rights in Indonesia's creative economy to a certain extent. AI-based work will continue to evolve, also affecting the manner in which content is generated through the industries of film, music, gaming and digital art, and new legal frameworks need to explore pathways to support both creators and businesses.[25] To the extent that copyright laws fail to properly address the realities of why copyright exists with regards to AI-generated works it may open legal loopholes that impede the protection and monetization of such works and have a chilling effect on innovation and investment in the AI space.

Recognizing these issues, Indonesia needs to take initiatives to amend the copyright regulation as to be able to regulate AI-generated works by providing clarity on ownership, liability, and infringement. Proposed solutions include assigning copyright to the human user that drives and controls the AI, accepting AI as a legal entity for copyright purposes, or establishing a third category of intellectual property rights because AI-generated content. Policymakers need to be sure that any regulatory changes strike a careful balance among the interests of human creators, technology developers and the broader public.

Comparative Analysis Between Indonesia and South Korea

Departing from one of the obsolete adages, namely "*ad recte docendum oportet primum inquirere nomina, quia rerum cognition a nominibus rerum dependet"* meaning that in order to understand something, it is necessary to know the name first, in order to get the right knowledge.[26] So, in order to gain

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[25] Lu, Yang. "Artificial intelligence: a survey on evolution, models, applications and future trends." *Journal of Management Analytics* 6, no. 1 (2019): 1-29; Silitonga, Ferry, and M. Falikul Isbah. "Artificial intelligence and the future of work in the indonesian public sector." *Jurnal Ilmu Sosial dan Humaniora* 12, no. 2 (2023): 296-308.

[26] The phrase "*ad recte docendum oportet primum inquirere nomina, quia rerum cognitio a nominibus rerum dependet*" translates to "in order to teach correctly, one must first inquire into names, because the knowledge of things depends on the names of things." This statement emphasizes that understanding the names or terms of things is essential for proper teaching and learning. It suggests that the correct knowledge or comprehension of concepts (or things) depends on accurately knowing and using the right names for them. By mastering the names, one can better understand the underlying concepts or objects

holistic knowledge about the study in this sub-chapter regarding the comparative analysis of copyright law between Indonesia and South Korea, it is important for the author to describe the study in 2 (two) main divisions that look at the concept of recognition and protection of copyright law for the involvement of AI in the creation process referring to the copyright law system in Indonesia and then in the context of the copyright law system in South Korea.

A. Copyright Recognition of AI Involvement in Indonesia

Mihi lex esse von videtur, quae justa non fuerit is an obsolete expression in a foreign language that means that something is unjust, then it is not a law. The conception of the obsolete expression in the level of "*legal principles*," in his opinion, can be interpreted that the law actually exists to provide a formulation of what kind of deeds should be done or not done so that it does not cause conflict and lead to the birth of injustice. Meanwhile, at the level of legal science, the conception of the principles as mentioned above tends to be interpreted as general legal principles considering its construction that can be included in all lines of the legal system.[27][28][29][30]

Based on this principle, if it is argued in a "*contrario*"[31]manner, it at least produces a conclusion that can be constructed in a hypothesis that the law only

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they represent. Essentially, naming is foundational to learning and teaching. *See* MacCormick, Neil. *Legal reasoning and legal theory*. (Oxford: Clarendon Press, 1994); MacCormick, Neil. *Rhetoric and the rule of law: a theory of legal reasoning*. (Oxford: OUP Oxford, 2005).

27 Hiariej, Eddy O.S. *Prisip-Prinsip Hukum Pidana: Edisi Penyesuaian KUHP Nasional.* (Depok: Raja Grafindo Persada, 2024).

28 Legal principles or legal principles are not concrete legal rules, but are basic thoughts that are general in nature or are the background of concrete regulations contained in and behind every legal system embodied in laws and regulations and judges' decisions which are positive laws and can be found by looking for general characteristics in concrete regulations. *See* Mertukusumo, Soedikno. *Mengenal Hukum: Suatu Pengantar.* (Yogyakarta: Liberty, 2006).

29 Mertukusumo, Soedikno. *Penemuan Hukum* (Yogyakarta: Liberty, 2007).

30 Mertokusumo, 2007.

31 *Argumentum a contrario* is a form of reasoning where the conclusion is drawn by contrasting two opposite or contradictory scenarios. It relies on the assumption that if one condition holds true, the opposite or contrary condition must be false. This method is commonly used in legal reasoning or logical discussions, where if a law or rule applies to a specific case, it does not apply to other cases that do not meet the same criteria.

regulates and talks about things that are fair and releases something that is unfair into something that is not connotated as a law or simply a law is interpreted as a formulation of an act to be said to be a legal act or not a legal act. However, to determine whether an act is a legal act (*legal event*) or an act that is not a legal act (*concrete event*) is certainly not an easy thing. Although, in some classical legal doctrines that are used as guidelines in determining actions as legal acts or non-legal acts since the past have been born with teachings that are generally known as [3233]*das sollen* and *das sein* in legal norms, but in fact today with the development of societal dynamics, there are several segments of these teachings that are difficult to apply if they are still guided by absolute principles in determining whether a blindness is a legal act or not a legal act. Moreover, in understanding a legal act, it will be closely related to the granting of sanctions as an award or as a reproach.[34]

In order to introduce a more *holistic understanding* of several segments of the teachings of *das sollen* and *das sein* in legal norms, which are aimed at determining an act as a legal act, as well as its relation to the imposition of sanctions that in its application experience legal problems as an impact on the development of community dynamics, the author takes the initiative to relate it to the context of regulation (including the imposition of sanctions) in the current positive legal regulations in Indonesia, especially regarding the protection of copyright law for AI-created works and comparing it with the construction of rules that apply in South Korea.

The normative dimension regarding the protection of copyright law in Indonesia was marked by the birth of Law Number 6 of 1982 concerning Copyright,[35] then amended by Law Number 7 of 1987 concerning Copyright,[36] Law Number 12 of 1997 concerning Copyright, Law[37] Number 19 of 2002

Essentially, it involves inferring what is not true based on what is true in a given situation. *See* Woleński, Jan. "Legal Reasoning and Logic." *Studia Humana* 13, no. 3 (2024): 18-22.

[32] Hardiago, David. "Asas Legalitas dan Self Plagiarism: Antinomi Realitas Empiris Sebagai Proyeksi Pengaturan Tindak Pidana Khusus di Bidang Hak Cipta." *UIR Law Review* 6, no. 2 (2022): 1-23.

[33] Mertukusumo, *Mengenal Hukum: Suatu Pengantar.*

[34] *See* Posner, Eric A. "The regulation of groups: The influence of legal and nonlegal sanctions on collective action." *The University of Chicago Law Review* 63, no. 1 (1996): 133-197; Levinson, Daryl J. "Collective Sanctions." *Stanford Law Review* (2003): 345-428.

[35] *See* Law Number 6 of 1982 concerning Copyright.

[36] *See* Law Number 7 of 1987 concerning Copyright.

[37] *See* Law Number 12 of 1997 concerning Copyright.

concerning Copyright,[38] and the last is Law Number 28 of 2014 concerning Copyright (hereinafter referred to as UUHC 2014), as a positive law of copyright protection that is currently in force, by defining protected copyright as "the [39]*exclusive right of the creator that arises automatically based on the declarative principle after a work is realized in a tangible form without reducing restrictions in accordance with the provisions of laws and regulations*".[40]

Referring to the authentic meaning of copyright as contained in the 2014 UUHC, it can be further emphasized that the recognition and protection of copyright in Indonesia puts its main instrument in the form of regulation that provides legal protection of exclusive rights of an author which includes 2 (two) main things.

*First***,** the legal protection of specific exclusive rights to the moral rights of creators. The provisions regarding this protection are regulated in Article 4 and Article 5 of the 2014 UUHC, by giving the following explanation:[41]

> *Article 5*
> *(1) Moral rights as referred to in Article 4 are the rights that are permanently attached to the Creator to:*
> *a. retain or not include his name on the copy in connection with the public use of his Works;*
> *b. using his alias or pseudonym;*
> *c. change his Creation in accordance with the propriety in society;*
> *d. changing the title and subtitle of the Creation; and*
> *e. defend their rights in the event of distortion of the Creation, mutilation of the Creation, modification of the Creation, or anything detrimental to their honor or reputation.*

Second, the legal protection of specific exclusive rights to the economic rights of creators. The provisions regarding protection are regulated in Article 4

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[38] *See* Law Number 19 of 2002 concerning Copyright.

[39] Republic of Indonesia. *Law Number 20 of 2014 concerning Copyright.*

[40] Syafrinaldi, Syafrinaldi. "Sejarah dan Teori Perlindungan Hak Kekayaan Intelektual." *Al-Mawarid: Jurnal Hukum Islam* 9, no. 1 (2003): 1-14. *See also* Setiawan, Andry, Rindia Fanny Kusumaningtyas, and Ivan Bhakti Yudistira. "Diseminasi Hukum Hak Cipta pada Produk Digital di Kota Semarang." *Jurnal Pengabdian Hukum Indonesia (Indonesian Journal of Legal Community Engagement)* 1, no. 1 (2018): 53-66; Fuadi, M. Zulvi Romzul Huda, and Ayon Diniyanto. "Written Quotations and Its Legal Protection: How Indonesian Law Reform on Copyrights Law?." *Journal of Law and Legal Reform* 3, no. 1 (2022): 1-16.

[41] Article 4 and Article 15 of Law Number 20 of 2014 concerning Copyright.

and Article 8 of the 2014 UUHC, by explaining that the economic rights imposed here are the exclusive rights of the creator or copyright holder to obtain economic benefits for the works they produce.[42]

Furthermore, from the two forms of exclusive rights protection related to copyright law protection, it will be related to what objects are protected as part of the exclusive rights of the creator as mentioned above. For this reason, it can be explained that the protection of economic rights and moral rights is at least aimed at protecting some of the main objects of copyright works that are specifically regulated in Article 40 paragraph (1) of the 2014 Law, including:[43]

> *Article 40*
> *(1) Protected works include works in the fields of science, art, and literature, consisting of:*
> *a. books, pamphlets, published written faces, and all other written works;*
> *b. lectures, lectures, speeches, and other similar works;*
> *c. teaching aids made for the benefit of education and science;*
> *d. songs and/or music with or without text;*
> *e. drama, musical drama, dance, choreography, puppetry, and pantomime;*
> *f. works of art in any form such as paintings, drawings, carvings, calligraphy, sculpture, sculptures, or collages; applied artworks; architectural works; map; batik artworks or other motif art; photographic works; Portrait;*
> *g. cinematograph works;*
> *h. translation, interpretation, adaptation, potpourri, database, adaptation, arrangement, modification and other works of the results of the transformation;*
> *i. translation, adaptation, arrangement, transformation, or modification of traditional cultural expressions;*
> *j. compilation of Works or data, either in a format that can be read by Computer Programs or other media;*
> *k. compilation of traditional cultural expressions as long as the*

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[42] Syafrinaldi Syafrinaldi, Noranida Mokthsim, and David Hardiago, "Brand Socialization for Small and Medium Enterprises (SMES) Industry Players in Kedah Malaysia as a Solution and Projection for Efforts to Provide Legal Certainty and Protection," *Community Engagement and Emergence Journal (CEEJ)* 5, no. 1 (2024): 54–65, https://doi.org/10.37385/ceej.v5i1.4193.

[43] Article 40 Number 1 of Law Number 20 of 2014 concerning Copyright.

compilation is an original work;
l. video games; and
m. Computer program.

From the three elements mentioned above, it can be emphasized that the recognition and protection of copyright in the regulatory regime in Indonesia as stipulated in the 2014 UUHC is aimed at 2 (two) main assets which are referred to as the exclusive rights of the creator in the form of moral rights and economic rights of a work. From this affirmation, when connected with the provisions contained in Article 1 number 2 of the 2014 UUHC, it is known that the exclusive rights of the creator in the form of moral rights and economic rights of a creation are closely related to the "Creator" of the creation. In expressive verbs, the meaning can be seen in the reading of Article 1 number 2 of the 2014 UUHC which states that:[44]

> *A creator is **a person or several people** who individually or jointly produce a unique and personal creation.*

Referring to the provisions in the 2014 UUHC above, it is known that the *creator* who is recognized and included in the normative parameters still emphasizes legal subjects that are natural *(naturlijk persoon)* and legal entities *(recht persoon),* and have not reached the "Creator" born from entities that are not legal subjects such as AI, considering that in the legal system in Indonesia AI is not qualified as a legal subject but as a legal object because their ability to take action independently or automatically. This argument is further strengthened by other provisions contained in Article 1 number 4 of the 2014 UUHC, which states that:[45][46]

> *The Copyright Holder is the Creator as the owner of the Copyright, the party who legally receives the right from the Creator, or another party who further receives the rights from the party who legally receives the right.*

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[44] Article 40 Number 1 of Law Number 20 of 2014 concerning Copyright

[45] Prasetyo, Bagus Dwi. Pertanggungjawaban Pidana Korporasi dalam Tindak Pidana Paten Berdasarkan Undang-Undang Nomor 14 Tahun 2001 Tentang Paten. *Thesis*. (Surabaya: Untag Surabaya, 2014); Weriansyah, Aditya, and Alvin Prima Ramadani. "The Analysis of Corporate Crime in Indonesia's Intellectual Property Laws." *Global Legal Review* 2, no. 1 (2022): 53-71.

[46] Law Number 20 of 2014 concerning Copyright.

Referring to the above provisions, it is known that the "Creator" in order to be able to utilize his exclusive rights in the form of economic rights and moral rights, must first be recognized as a copyright holder. Meanwhile, the phrase *copyright holder* as stipulated in Article 1 number 2 and Article 1 number 4 of the 2014 UUHC, only recognizes natural legal subjects *(naturlijk persoon)* and legal entities *(recht persoon),* or strictly has not reached the "Creator" born from the entity that is not the subject of the law. That is, if in the course of its journey it is found or there is a creation that is carried out by involving AI as one of its creators, the position of the recognition of the creation in the construction of the 2014 UUHC, gives birth to a situation for recognition of exclusive rights, which is limited only to the creator who is a natural legal subject *(naturlijk persoon)* and a legal entity *(recht persoon)* to get exclusive rights in the form of economic rights and moral rights.

The above argument is further supported when it is connected with a "*systematic/logical interpretation*" of the construction of Article 1 number 8 of Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions (hereinafter referred to as the ITE Law), which equates the concept between electronic agents[47] and *Artificial Intelligence* (AI). The ITE Law provides an explanation that electronic agents are described as electronic systems designed to carry out automatic actions regulated by humans. This description is appropriate if it connects from the point of view of working and functioning the concept of AI as an entity that performs tasks automatically, but is still based on instructions given by the legal subject behind it. Artificial Intelligence[48] itself is a system formed and operated by humans. *Artificial Intelligence* (AI) cannot work alone, so the view of AI as a legal subject contradicts the concept of law in Indonesia. According to Indonesia's positive law, AI is only seen as a legal object or only interpreted as a companion in the process of creating a work protected in the 2014 UUHC.

With the position on the recognition of AI as mentioned above and linked to one of the objectives of the formation of the 2014 UUHC contained in the consideration of letter b, there is a contradiction considering that in the consideration as referred to in expressive verbs stated:[49]

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[47] Priancha, Angga, et al. "Rethinking “Electronic Agent” Terminology in the Law on Electronic Information and Transaction from the Perspective of Indonesian Lastgeving Law." *Mimbar Hukum* 34, no. 2 (2022): 378-402.

[48] Budi Agus Riswandi, *Copyright on the Internet: Legal Aspects and Problems in Indonesia / Budi Agus Riswandi* (Yogyakarta: UII Press, 2009).

[49] *See* Ritawati, Ritawati, et al. "Copyright in the Digital Age in the Protection of Intellectual Property Rights in Indonesia." *International Conference on “Changing of Law: Business*

> *that the development of science, technology, art, and literature has been so rapid that it* ***requires increased protection and guarantee of legal certainty*** *for copyrights, copyright holders, and owners of Related Rights.*

Contradictions as referred to in turn have an impact on the protection of partial creations if they are only placed on natural legal subjects *(naturlijk persoon)* and eliminate the role of AI in the process of creating a copyrighted work. This contradiction further has an impact on the specific legal issue of the main question regarding the position of exclusive rights, both moral rights and economic rights, which in the process of creating a copyrighted work involves an AI lawsuit. The analogy as an illustration of this problem is illustrated in several examples of cases that have occurred before in other countries, for example the case in Kanda in 2020 related to the painting "*Suryast*" created by Ankit Sahn. It is known that Ankit Sahn uses an artificial intelligence-based tool called[50] RAGHAV (*Robust Artificially Intelligent Graphics and Art Visualizer*) in producing artworks in 2020 which are given the name "*Suryast*". Furthermore, it is known that the artwork "*Suryast*" is basically a combination of *digital* photos taken by Sahni and put into RAGHAV which is mixed by taking the style of painting entitled "*The Starry Night*" by Vincent Van Gogh. The problem occurred when Sahni registered the copyright of the artwork.[51] *Suryast* as the main creator and RAGHAV as the Co-Author of the painting. The registration submitted to *The Review Board of the US Copyright Office* (USCO) of the United States for the painting by Sahni was motivated by the reason that the contribution of artificial intelligence tools was different and acted independently. However, the copyright registration made by Sahni was rejected

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Law, Local Wisdom and Tourism Industry" (ICCLB 2023). Atlantis Press, 2023; Litoama, Fransiskus. "The Legal Certainty of Legitimate Ownership in Copyright Works of Songs or Music, as well as Associated Rights in Non-Declarative Recording in accordance with the Royalty Management System under Government Regulation No. 56 of 2021 (Case Study on Copyright." *Sinergi International Journal of Law* 2, no. 1 (2024): 1-13; and Yaqin, Aenul, and Dewi Sulistianingsih. "Copyright Protection in Digital Rights Management Systems: Legal and Technical Challenges in Implementing Effective Solutions." *Journal of Private and Commercial Law* 8, no. 1 (2024): 99-112.

[50] Ramesh, Aditya, et al. "Zero-shot text-to-image generation." *Proceedings of the 38th International Conference on Machine Learning, PMLR* 139 (2021): 8821-8831.

[51] Nadya Dewi Chrisanti and Hariyo Sulistiyantoro, "Analysis of the Legal Protection of Artificial Intelligence Artworks Reviewed in Indonesia, the United Kingdom, and Canada (Comparative Studies in Indonesia, the United Kingdom, and Canada)."

by USCO which stated that there was a lack of human involvement and authorship in the artwork in registering the copyright and there was no significant difference in the final work of the painting, which was subsequently appealed by Sahni and again rejected by the USCO Board which affirmed that the final image of *Suryast* was a derivative work of art.[52]

Referring to the example of the case above, it can at least be understood that the creation mechanism involving AI in the process can give birth to legal problems for the recognition and protection of the creation. The problem as intended does not stop only at the recognition and protection that involves AI in the process, but is also followed by other problems related to the extent of recognition and protection that will be provided if it is based on the involvement of AI in the creation process, whether it is allowed only when AI used in the process of analyzing existing works so that the results are qualified as derivative works, or the involvement of AI in the creation process must produce new works to be registered as Protected Copyrights. The legal problem as described when it is connected to the 2014 UUHC is that it is still normatively interpreted that the "Creator" to be able to utilize his exclusive rights in the form of economic rights and moral rights, must first be recognized as a copyright holder. Meanwhile, the phrase "copyright holder" as stipulated in Article 1 number 2 and Article 1 number 4 of the 2014 UUHC, only recognizes natural legal subjects [53]*(naturlijk persoon)* and legal entities *(recht persoon),* or strictly has not reached the "Creator" born from the entity that is not the subject of the law. It can be affirmed that the recognition and protection of copyright involving AI in the process does not have a legal basis or framework in the copyright law regime in particular and intellectual property law in general in Indonesia.

B. Copyright Acknowledgment of AI Involvement in South Korea

The normative dimension regarding copyright law protection in South Korea is marked by the birth of the Copyright Law of 1957, which was then amended with the last amendment to the Copyright Law No. 17592, December 2020 (hereinafter referred to as Copyright Act Korea). Referring to

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[52] Goodfellow, Ian, et al. "Generative adversarial networks." *Communications of the ACM* 63, no. 11 (2020): 139-144.

[53] Goodfellow.

Chapter 1 of the General Provisions Article 1 of the Copyright Act Korea, it expressly states that:[54]

> *The purpose of this Act is to protect the rights of authors and the rights neighboring on them and to promote fair use of works in order to contribute to the improvement and development of culture and related industries*

Referring to the provisions mentioned above, it can be seen that the birth of the Copyright Act Korea has the main purpose of providing legal recognition and protection to the creator for his creations as an integral part of his contribution to the improvement and development of culture and industry in the country.[55] Meanwhile, for works protected by the regulatory regime of the Copyright Act Korea referring to the provisions of Article 4, there are several copyrighted works, including:[56]

1. Novels, poems, theses, lectures, speeches, plays and other literary works;
2. Musical works;
3. Theatrical works including dramas, choreographies, pantomimes, etc.;
4. Paintings, calligraphic works, sculptures, printmaking, crafts, works of applied art, and other works of art;
5. Architectural works including buildings, architectural models and design drawings;
6. Photographic works (including those produced by similar methods);
7. Cinematographic works;
8. Maps, charts, design drawings, sketches, models and other diagrammatic works;
9. Computer program works.

Referring to the provisions of Article 4 of the Copyright Act Korea above regarding the forms of protected copyrighted works, in essence it provides the basis for legal certainty and protection of copyright in South Korea which emphasizes on 2 (two) main outlines, namely the protection of moral rights and the protection of economic rights as part of the exclusive rights of creators, which normatively this provision can be seen in Section 3 Author's Moral Right

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[54] Youm, Kyu Ho. "Copyright Law in the Republic of Korea." *UCLA Pacific Basin Law Journal* 17 (1999): 2-3.

[55] South Korea. *Copyright Act No. 14634, 2017.* Available online at https://elaw.klri.re.kr/eng_service/lawView.do?hseq=42726&lang=ENG

[56] Copyright Act No. 14634.

Article 11 to Article 15 of the Copyright Act Korea and Section 4 Author's Economic Right Article 16 to Article 38 of the Copyright Act Korea.

Referring to the provisions related to the protection of moral rights and the protection of economic rights as part of the exclusive rights of the creator in the Copyright Act Korea above, it is known that the creator which is recognized and included in the normative parameters still emphasizes legal subjects that are natural *(naturlijk persoon)* and legal entities *(recht persoon)*, and has not reached the *creator* born from non-legal entities such as AI, considering that in the legal system in South Korea referring to the Copyright Act Korea, AI is not qualified as a legal subject but as a legal object based on AI's ability to perform actions independently or automatically. This argument is further strengthened by other provisions contained in Article 2 number 1 of the Copyright Act Korea, which states that the term "work" means a creative production that expresses human thoughts and emotions.[57] And the provisions contained in Article 2 (2) of the Copyright Act Korea, which states that the term "author" means a person who creates a work. [58]

Referring to the above provisions, it is known that the *creator* in order to be able to utilize his exclusive rights in the form of economic rights and moral rights, must first be recognized as a copyright holder. Meanwhile, the phrase copyright holder as stipulated in Article 2 number 1 and Article 2 number 2 of the 2020 UUHC, only recognizes natural legal subjects *(naturlijk persoon)* and legal entities *(recht persoon)*, or strictly has not reached the "Creator" born from entities that are not subject to the law. This means that if in the course of its journey it is found or there is a work that is carried out by involving AI as one of its creators, the position of the recognition of the creation in the construction of the 2020 UUHC gives birth to a situation for the recognition of exclusive rights, which is limited only to the creator who is a natural legal subject *(naturlijk persoon)* and a legal entity *(recht persoon)* to get exclusive rights in the form of economic rights and moral rights.

With the above description, it can be concluded as an affirmation in this sub-study that the position and legal protection of copyright in the 2020 South Korean Law regarding the involvement of AI in the creation process of a copyrighted work has not been recognized or has an adequate copyright legal framework. This affirmation is supported by real conditions as stipulated in Article 2 (1) and Article 2 (2) of the Copyright Act Korea, which only recognizes natural legal subjects *(naturlijk persoon)* and legal entities *(recht*

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[57] Copyright Act No. 14634.

[58] Copyright Act No. 14634.

persoon), or strictly has not reached the *creator* born from entities that are not subject to the law.

Referring to this sub-study related to the concept of recognition and protection of copyright law on the involvement of AI in the creation process referring to the Copyright law system in Indonesia and the Copyright law system in South Korea, it can be concluded that both the 2014 Indonesian Law and the 2020 South Korean Law do not recognize the existence of copyright recognition and protection involving AI in the process of creating a work. or in other words, AI does not have a legal basis or framework in the copyright law regime in particular and intellectual property law in general in Indonesia and South Korea.

The Role of Artificial Intelligence in Modern Literary Works

AI creation work means works generated, fully or partially, by artificial intelligence systems. These are all forms of content, from literature, music, and visual arts to film scripts and even software code. While traditional authorship depends on the intuition of the human mind, AI-driven authorship highlights machine-learning algorithms that interpret, correlate and produce datasets that better match human art. The growing complexity of artificial intelligence (AI) algorithms, including deep learning-based Natural Language Processing (NLP) systems, is increasingly producing human-quality creative works that have brought into sharp focus important legal and ethical questions on ownership, originality, and copyright protection.[59][60]

AI-driven authorship varies by how much human involvement there is in the creative process. In some instances, AI acts as an assistive tool in which a human creator directs or polishes AI-generated drafts into a final piece. In these cases, the human user maintains much of the creative control, and tends to be acknowledged as the author. But when AI runs with very little human involvement, such as generative models that create poems on their own, paintings on their own or news articles on their own, the question of ownership gets thornier. Traditional copyright doctrine typically requires the existence of

[59] Cao, Yihan, et al. "A Survey of AI-Generated Content (AIGC)." *ACM Computing Surveys* 57, no. 5 (2025): 1-38.

[60] Floridi, Luciano, and Massimo Chiriatti. "GPT-3: Its nature, scope, limits, and consequences." *Minds and Machines* 30 (2020): 681-694.

a human author who can claim ownership, leaving the status of AI-created works in a legal gray area.

AI-driven authorship ranges over a variety of creative industries. The AI has been used to write novels, poems, news articles, the sort of literature. AI-based tools such as OpenAI's GPT models can write full pieces of text from a prompt, at times creating pieces indistinguishable from something written by humans. In the realm of the music industry also, there are already many tools such as AIVA (Artificial Intelligence Virtual Artist), capable of composing original symphonies or soundtracks and challenging classical concepts of creativity in music. This is a paradigm shift that raises new questions about human authorship and formatting and requires new kinds of laws to govern AI's role in content generation.[6162]

AI has also made a significant impact on Visual arts and design. Generative Adversarial Networks (GANs) and diffusion models like MidJourney or DALL· E can produce lifelike paintings, illustrations and digital art from textual prompts. Some believe the user who devises prompts, or refines the work, deserves credit for the resulting image, while others argue that the AI itself operates as a separate creator. And this debate complicates intellectual property (IP) protections because existing copyright laws do not correspondingly recognize non-human authorship.

In the film and entertainment industry and the AI has been used to write scripts, edit footage and even create digital actors. And as AI-generated screenplays and voice synthesis technologies improve, writers and performers looking to lend their talents to a project find themselves competing with low-cost AI-generated scripts and perfectly-synthesized voices. But it also raises the specter of copyright ownership—especially where AI-generated works are trained on, or closely approximate, pre-existing copyrighted works. And questions of originality and fair use are key to the legal questions at play in ai-driving authorship in entertainment.

Another area where AI-generated authorship is finding more and more relevance is software development. AI-driven code assistant tools such as GitHub Copilot and OpenAI Codex can write code for intricate programming scripts solely based on natural language commands. These tools, whilst increasing productivity and making software engineering more accessible, also raise challenges in ownership and liability. It's debatable who is responsible if a code snippet generated by an AI application violates an existing patent or

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[61] Floridi, and Chiriatti.

[62] Gervais, Daniel J. "The Machine as Author." *Iowa Law Review* 105 (2020): 2053-2106.

copyright — the developer of the AI technology, the person using it or the company whose AI tool generated it.

The ethical side of AI-driven authorship also cannot be underestimated. To cope with the emerging AI-generated content, one should be ready to encounter concerns about authenticity, plagiarism, and misinformation. Moreover, if AI-generated text, images, or videos have realism hardly distinguishable from that created by humans, the possibilities for their misuse are numerous, including deepfakes and AI-generated propaganda The need for regulatory intervention is increasing to ensure that AI-generated works are generated ethically and attributed correctly.

Another significant dimension of AI-empowered authorship is its effect on the labor market. As such, you are equipped to generate creative content, so a human artist, producer, musician, coder, etc. could soon be forced to eliminate them in their field.[63] AI can be a collaborative tool that enhances creativity, but the full and proper establishment of protections and compensation models for creative professionals will be necessary, or else the possibility of traditional creative work being destroyed looms. All AI authorship authoring policies will need to be framed so that human creators benefit from, rather than are displaced by, AI authorship.

Various jurisdictions have taken divergent approaches to AI-driven authorship from a legal standpoint. The US Copyright Office, for example, has decided that completely AI-authored works without human involvement are ineligible for copyright protection. The same goes for the European Union, which is working on AI regulations that can set clear rules about authorship and IP ownership. The same cannot be said though for Indonesia, which has so far not enacted any specific piece of legislation regulating the output of AI.

Implications for Innovation and Economic Growth

As hungry power users discover more AI solutions, the advancements in language understanding and generation are driving fundamental changes across every industry in Indonesia, including finance, healthcare, manufacturing, logistics, and beyond. However, this accelerated pace informs a recalibrating

[63] Mr Intikhab Alam, Shamsi. "The Legal Ramifications of AI-Powered News Systems and Copyright on Media Practices." *International Journal of Trend in Scientific Research and Development* 2, no. 5 (2018): 2512-2520; Gülaçtı, Ismail Erim, and Mehmet Emin Kahraman. "The impact of artificial intelligence on photography and painting in the post-truth era and the issues of creativity and authorship." *Medeniyet Sanat Dergisi* 7, no. 2 (2021): 243-270.

legal environment characterized by uncertainty and voids not yet bridged by coherent plans at a government level. Yet while there are tentative movements toward defining AI governance and ethics, few laws and regulations provide the needed specificity to navigate the complex confrontations AI presents, placing commercial entities and would-be innovators in a perilous status quo. This legal limbo not only hinders compliance initiatives, but undermines the prospect-driven, future-oriented ambition of interested stakeholders to harness the power of AI for economic prosperity and social progress.

A particular source of concern is how to assign liability where AI is the decision-maker, as it is increasingly the case due to self-learning algorithms and sophisticated autonomous functionality, within the existing Indonesia's legal regime, which remains ambiguous on the topic. Classical models of legal responsibility assume human agency and struggle to catch up with a system where consequences can derive from data-driven automated processes which adapt over time. Consequently, corporations, developers, and data providers are left hanging in the balance, unsure if they can be held liable for damages that result from machine-driven recommendations, predictive data insights, or algorithmically misdirected analytics. Even without the legislation to guide the formation of risk management strategies, the lack of legal clarity means that businesses cannot always be sure of the limits of their legal responsibilities or the scope of their potential liabilities.

Also critical are unanswered interrogations regarding the ethical and regulatory implications of extensive data collection, use and sharing, which underpin modern AI applications.[64] However, though Indonesia had adopted several data protection frameworks, including the Personal Data Protection Law, enforcement and applicability of these frameworks to AI are rather ambiguous at best.[65] Elaborate, data-thirsty algorithms require vast datasets, often containing sensitive personal data, and the legal frameworks surrounding consent, ownership of data, and cross-border flows of data are often open to contradictory interpretations by an array of agencies. Not only does this intricate quilt of rules erode consumer trust, but it also adds layers of operational

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[64] Stahl, Bernd Carsten. *Artificial intelligence for a better future: an ecosystem perspective on the ethics of AI and emerging digital technologies*. (London: Springer Nature, 2021).

[65] Setiawati, Diana, Hary Abdul Hakim, and Fahmi Adam Hasby Yoga. "Optimizing Personal Data Protection in Indonesia: Lesson Learned from China, South Korea, and Singapore." *Indonesian Comparative Law Review* 2, no. 2 (2020): 95-109; Rahman, Rofi Aulia, et al. "Constructing responsible artificial intelligence principles as norms: Efforts to strengthen democratic norms in indonesia and european union." *Padjadjaran Jurnal Ilmu Hukum (Journal of Law) (PJIH)* 9, no. 2 (2022): 231-252.

frustration for businesses looking to weave data-driven insights into their offerings.

Intellectual property rights as they relate to AI-generated works and inventions are another prominent area of concern. Traditional legal thinking is grounded in the idea that creations are the result of human intelligence, which makes existing laws insufficient for situations in which AI independently produces artistic, design or inventive interpretations.[66] "Like many other jurisdictions, Indonesia does not have comprehensive guidelines on attribution of authorship and ownership in cases where the creative force behind the work is a machine-learning model or deep neural network". As a result, the uncertainty about whether and how startups, research institutions, and established companies should protect such works partly or entirely created by non-human intelligence is undermining the commercialization of emerging technologies and limiting innovation diversity.

Indonesia's decentralized nature, in which local governments can introduce regulations that deviate from national mandates — or even directly oppose them — further intensifies this fragmented regulatory framework. The variability in regulations and the unclear legal framework can create friction in the fluid nature of technological development and ultimately dissuade collaborative efforts and foreign investment, particularly in such a rapidly changing field as AI. If enterprises want to operate in multiple regions in the archipelago, they may face conflicting or overlapping regulations that govern the use of data, security standards and protocols, and AI deployments.[67] This combined effect leads to a vast labyrinth of regulations that weighs down most heavily on smaller or less mature businesses that do not have the strong legal and compliance infrastructure in place to navigate this complex landscape, and are too often left with a much smaller potential for growth.

The economic implication of such legal grey zone reverberations is then further felt in the wider market environment fuelling investor hysteria and the strategic thinking of both domestic and international players. And as for

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[66] Ballardini, Rosa Maria, Kan He, and Teemu Roos. "AI-generated content: authorship and inventorship in the age of artificial intelligence." *Online Distribution of Content in the EU*. (London: Edward Elgar Publishing, 2019), pp. 117-135. *See also* Smits, Jan, and Tijn Borghuis. "Generative AI and intellectual property rights." In *Law and artificial intelligence: Regulating AI and applying AI in legal practice*. (The Hague: TMC Asser Press, 2022), pp. 323-344.

[67] Sianturi, Novdin M., et al. "Relevancy technological innovation and community economic development in Indonesia." *Linguistics and Culture Review* 6, no. S3 (2022): 117-130.

funding: Venture capital firms, fearful of investments being ensnared in long-running fights, or subjected to penalizing regulatory action, may delay funding AI-focused start-ups until more legible legal norms emerge. As a result, the available capital that would normally fuel innovative AI R&D is restricted, and some of the most talented entrepreneurs and data scientists are making their way to places where the regulatory framework offers a clear and conducive environment.[68] This dynamic not only threatens Indonesia's competitive ship in the global tech sea but could siphon off local talent necessary for sustained progress in AI for the country.

Furthermore, the recent legal uncertainty is a substantial deterrent for multidisciplinary investment, community fosters, and university research critical for strengthening a thriving AI landscape within Indonesia. Academic institutions, which are often purveyors of high-end research, may be reluctant to collaborate on projects with the industry or the government if they have no quantifiable assurances that concerns about data exchange, IP rights and liability will be addressed. For their part, public sector agencies also may hesitate to embrace innovative AI solutions in areas like public health or transportation without an established legal structure that lays out responsibilities following system failures or unintended consequences. As a result, inter-sectoral synergies are underexploited, robbing Indonesia from potential gains in efficiency, knowledge generation, and social welfare.[69]

In light of these challenges, legal scholars, business leaders, and experts in public policy have increasingly been calling for a clear and future-proof regulatory framework for AI. However, it is recognized that applying AI regulations as far reaching as existing laws to machine-learning systems is not a suitable approach for the nation, and that creating certain provisions that highlight the unique nature of adaptive decision making, algorithmic transparency, and nuanced ethical implications specifically tailored towards machine learning will be necessary. These should include clear standards for auditing output generated by AI systems, a system of liability that is proportionate to the complexity of the system design and strict regulations about data governance that will help ensure public trust. Achieving such a

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[68] Jennings, Charles. *Artificial Intelligence: Rise of the Lightspeed Learners.* (Landham, Maryland: Rowman & Littlefield, 2019); Hillman, John. "Smart Regulation: Lessons from the Artificial Intelligence Act." *Emory International Law Review* 37, no. 4 (2023): 775-826.

[69] Nugroho, Iwan, and Lukman Hakim. "Artificial intelligence and socioeconomic perspective in Indonesia." *Journal of Socioeconomics and Development* 6, no. 2 (2023): 112-117.

holistic legal framework involves balancing act — the need to foster innovation and economic vibrancy against the need to protect the public from the pitfalls of unregulated AI advancement.

The initial efforts of AI legislation and policy-making in Indonesia are somewhat promising, wherein government agencies conduct workshops, consultations, and collaborative forums to receive feedback from tech entrepreneurs, legal practitioners, and academic researchers. Such inclusive conversations aspire to establish in Indonesia an AI regulatory framework that speaks to the nation's unique cultural, economic and infrastructural contexts. The lawmaking logic behind this initiative: by gathering a wide range from one end of the digital cosmos to the other, from rural areas trying to reap the benefits of tech while avoiding digital divide to crowded urban areas where tech adoption leaves you in the dust—lawmakers aim to develop rules that are not only progressive but rooted in context as well. Though the legislative process of a country this wide and complex can drag on, the energy captured in these multistakeholder workshops points to an increasing recognition of AI's game-changing capabilities, and the need for sound legal scaffolding to support its use.

At last, the development of AI-based industries in Indonesia will depend on the legal uncertainties considered for a long time, in addition to the regulatory framework tailored to the evolving capabilities of the technology. Indonesia can open the tremendous promise of AI applications to improve public services, stimulate economic opportunities, and drive social innovation by realizing clear pathways to compliance, accountability, and ethical deployment. In contrast, further stalling on, or failing to enact, that sort of legislative action risks the United States remaining in a vulnerable spot, unable to fully capitalize on AI's innovative potential while exposing its citizens and businesses to the dangers of unconstrained technological advancement. In this momentous moment, whether Indonesia be able to stand up as a great competitor in the global AI theater or remain stuck in the hazy overcast of legal uncertainty that, at this stage, overshadows its dreams of becoming a tech giant will depend on the forward-thinking leadership and previse policy that people will implement.

Conclusion

The Copyright legal regime in Indonesia and the Copyright legal regime in South Korea, it can be concluded that both the Indonesian UUHC 2014 and South Korean UUHC 2020 do not recognize the existence of recognition and

protection of copyright involving AI in the process of creating a work, or in other words AI has no legal basis or frame in the specific copyright legal regime and intellectual property law in general in Indonesia and South Korea. With these conditions, in the context of intellectual property law (IPR) in Indonesia, it requires the implementation of a total reformulation policy towards Law No. 28 of 2014 concerning Copyright, one of which provides a clear legal framework to guarantee certainty regarding the position of a creation produced by involving Artificial Intelligence technology in the creation process.

References

Adakawa, Murtala Ismail, and N. S. Harinarayana. "Insight Into Intellectual Property in Patent Medicine: An Indian Perspective." *Unnes Law Journal* 8, no. 2 (2022): 377-391.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Amboro, FL Yudhi Priyo, and Khusuf Komarhana. "Prospek Kecerdasan Buatan Sebagai Subjek Hukum Perdata Di Indonesia [Prospects of Artificial Intelligence as a Subject of Civil Law in Indonesia]." *Law Review* 21, no. 2 (2021): 145-172.

Antons, Christoph. "Copyright law reform and the information society in Indonesia." *Copyright law, digital content and the internet in the Asia-Pacific* (2008): 235-55.

Aragon, Lorraine V., and James Leach. "Arts and owners: Intellectual property law and the politics of scale in Indonesian arts." *American Ethnologist* 35, no. 4 (2008): 607-631.

Astawa, I. Gede Putu Harry Gelary, and I. Gede Agus Kurniawan. "The Regulation Reform of Intellectual Property Following the Advancement of Artificial Intelligence: Guidance and Reevaluation." *Pena Justisia: Media Komunikasi dan Kajian Hukum* 23, no. 3 (2024): 653-670.

Balik, Agustina, et al. "Registration of Copyright as Guarantee of Batik Motif Legal Protection (Comparation Study of Indonesia, Malaysia and Thailand)." *Journal of Indonesian Legal Studies* 8, no. 1 (2023): 1-44.

Ballardini, Rosa Maria, Kan He, and Teemu Roos. "AI-generated content: authorship and inventorship in the age of artificial intelligence." *Online Distribution of Content in the EU*. (London: Edward Elgar Publishing, 2019), pp. 117-135.

Benjamin, Walter, and Michael W. Jennings. "The work of art in the age of its technological reproducibility [first version]." *Grey Room* 39 (2010): 11-37.

Bessen, James and Michael James Meurer. *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk*. (Princeton: Princeton University Press, 2008).

Blair, Roger D. and Thomas F. Cotter, *Intellectual Property: Economic and Legal Dimensions of Rights and Remedies* (Cambridge, MA: Cambridge University Press, 2005).

Budi Agus Riswandi, *Copyright on the Internet: Legal Aspects and Problems in Indonesia / Budi Agus Riswandi* (Yogyakarta: UII Press, 2009).

Cabinet Secretariat of Republic of Indonesia. "President Jokowi, Elon Musk Discuss Investment Development Potentials in Indonesia", *Online News Cabinet Secretariat of Republic of Indonesia,* May 20, 2024. Online at https://setkab.go.id/en/president-jokowi-elon-musk-discuss-investment-development-potentials-in-indonesia/

Cao, Yihan, et al. "A Survey of AI-Generated Content (AIGC)." *ACM Computing Surveys* 57, no. 5 (2025): 1-38.

Chrisanti, Nadya Dewi, and Hariyo Sulistiyantoro. "Analisis Perlindungan Hukum Hak Cipta Karya Seni Buatan Artificial Intelligence Ditinjau Pada Negara Indonesia, Inggris, dan Kanada (Studi Komparatif di Indonesia, Inggris, dan Kanada)." *Kabillah: Journal of Social Community* 9, no. 2 (2024): 132-143.

Coordinating Ministry for Economic Affairs. *Buku Putih Strategi Nasional: Pengembangan Ekonomi Digital Indonesia 2030.* (Jakarta: Kementeriaan Koordinator Bidang Perekonomian Republik Indonesia, 2023).

Cullet, Philippe. "Patents and medicines: the relationship between TRIPS and the human right to health." *International Affairs* 79, no. 1 (2003): 139-160.

Darmantho, Adhitya. "Copyright in the Art Industry: Ethical and Management Challenges for Artwork Protection." *Jurnal Seni Musik* 13, no. 1 (2024): 42-58.

Darnia, Meriza Elpha, et al. "Perlindungan Hak Kekayaan Intelektual di Era Digital." *Journal of Education Religion Humanities and Multidiciplinary* 1, no. 2 (2023): 411-419.

Dwisvimiar, Inge, Dede Agus, and Maulia Tasyafa Audry. "Development of Traditional Cultural Expressions of Patingtung Art from the Aspects of Copyright and Advancement of Culture." *Pandecta Research Law Journal* 18, no. 1 (2023): 1-14.

Ekperi, Mark D., and P. Z. Alawa. "Martin Heidegger on Technology: Implications for Artificial Intelligence." *South-South Journal of Humanities and International Studies* 7, no. 1 (2024): 509-522.

Floridi, Luciano, and Massimo Chiriatti. "GPT-3: Its nature, scope, limits, and consequences." *Minds and Machines* 30 (2020): 681-694.

Fuadi, M. Zulvi Romzul Huda, and Ayon Diniyanto. "Written Quotations and Its Legal Protection: How Indonesian Law Reform on Copyrights Law?." *Journal of Law and Legal Reform* 3, no. 1 (2022): 1-16.

Gema, Ari Juliano. "Masalah Penggunaan Ciptaan Sebagai Data Masukan dalam Pengembangan Artificial Intelligence di Indonesia." *Technology and Economics Law Journal* 1, no. 1 (2022): 1-17.

Gervais, Daniel J. "The Machine as Author." *Iowa Law Review* 105 (2020): 2053-2106.

Goodfellow, Ian, et al. "Generative adversarial networks." *Communications of the ACM* 63, no. 11 (2020): 139-144.

Gülaçtı, Ismail Erim, and Mehmet Emin Kahraman. "The impact of artificial intelligence on photography and painting in the post-truth era and the issues of creativity and authorship." *Medeniyet Sanat Dergisi* 7, no. 2 (2021): 243-270.

Hardiago, David. "Asas Legalitas dan Self Plagiarism: Antinomi Realitas Empiris Sebagai Proyeksi Pengaturan Tindak Pidana Khusus di Bidang Hak Cipta." *UIR Law Review* 6, no. 2 (2022): 1-23.

Hiariej, Eddy O.S. *Prisip-Prinsip Hukum Pidana: Edisi Penyesuaian KUHP Nasional.* (Depok: Raja Grafindo Persada, 2024).

Huang, Ken, and Winston Ma. "Legal and Ethics responsibility of ChatGPT." *Beyond AI: ChatGPT, Web3, and the Business Landscape of Tomorrow*. (Cham: Springer Nature Switzerland, 2023), pp. 329-353.

Irawan, Candra. "Protection of traditional knowledge: A perspective on Intellectual Property Law in Indonesia." *The Journal of World Intellectual Property* 20, no. 1-2 (2017): 57-67.

Jafar, Faisal Herisetiawan. "Optimizing Intellectual Property as a Fiduciary Security Object After the Issuance of Governmental Regulation No. 24 of 2022." *Law Research Review Quarterly* 9, no. 3 (2023): 377-398.

Jaffe, Adam B., and Josh Lerner. "Innovation and its discontents." *Capitalism and Society* 1, no. 3 (2006): 27-65.

Jaya, Febri, and Wilton Goh. "Analisis Yuridis Terhadap Kedudukan Kecerdasan Buatan Atau Artificial Intelligence Sebagai Subjek Hukum Pada Hukum Positif Indonesia." *Supremasi Hukum* 17, no. 2 (2021): 01-11.

Jennings, Charles. *Artificial Intelligence: Rise of the Lightspeed Learners.* (Landham, Maryland: Rowman & Littlefield, 2019); Hillman, John.

"Smart Regulation: Lessons from the Artificial Intelligence Act." *Emory International Law Review* 37, no. 4 (2023): 775-826.

Kumala, Ida Ayu Ratna, and Ida Ayu Putu Sri Astiti Padmawati. "Optimalisasi Kekayaan Intelektual (KI) Sebagai Jaminan Utang dalam PP No. 24 Tahun 2022." *Jurnal Yusthima* 4, no. 1 (2024): 242-153.

Landes, William M., and Richard A. Posner. *The Economic Structure of Intellectual Property Law*. (Cambridge, MA: Harvard University Press, 2003).

Lemley, Mark A., and John F. Duffy. "Property, Intellectual Property, and Free Riding/Comment/Reply." *Texas Law Review* 83, no. 4 (2005): 1031-1075.

Litoama, Fransiskus. "The Legal Certainty of Legitimate Ownership in Copyright Works of Songs or Music, as well as Associated Rights in Non-Declarative Recording in accordance with the Royalty Management System under Government Regulation No. 56 of 2021 (Case Study on Copyright." *Sinergi International Journal of Law* 2, no. 1 (2024): 1-13.

Lu, Yang. "Artificial intelligence: a survey on evolution, models, applications and future trends." *Journal of Management Analytics* 6, no. 1 (2019): 1-29.

MacCormick, Neil. *Legal reasoning and legal theory*. (Oxford: Clarendon Press, 1994); MacCormick, Neil. *Rhetoric and the rule of law: a theory of legal reasoning*. (Oxford: OUP Oxford, 2005).

Masrur, Devica Rully, and Ogah Chinyere Constance. "Drug Patent Monopoly During Covid-19 Outbreaks: How the Government Regulates this?." *Journal of Private and Commercial Law* 7, no. 1 (2023): 97-128.

Mertukusumo, Soedikno. *Mengenal Hukum: Suatu Pengantar*. (Yogyakarta: Liberty, 2006).

Mertukusumo, Soedikno. *Penemuan Hukum* (Yogyakarta: Liberty, 2007).

Ministry of Industry Republic of Indonesia. "Making Indonesia 4.0: Strategi RI Masuki Revolusi Industri Ke-4", *Press Release,* March 20, 2018. Online at https://kemenperin.go.id/artikel/18967/making-indonesia-4.0:-strategi-ri-masuki-revolusi-industri-ke-4.

Mohamed, Yasir Abdelgadir, et al. "Navigating the Ethical Terrain of AI-Generated Text Tools: A Review." *IEEE Access* (2024).

Mr Intikhab Alam, Shamsi. "The Legal Ramifications of AI-Powered News Systems and Copyright on Media Practices." *International Journal of Trend in Scientific Research and Development* 2, no. 5 (2018): 2512-2520.

Muttaqin, Muttaqin. et al., *Implementation of AI in Life*. (Medan: Yayasan Kita Menulis, 2023).

Nugroho, Iwan, and Lukman Hakim. "Artificial intelligence and socioeconomic perspective in Indonesia." *Journal of Socioeconomics and Development* 6, no. 2 (2023): 112-117.

OECD, "Licensing of IP Rights and Competition Law" (London, April 29, 2019), http://www.oecd.org/daf/competition/licensing-of-ip-rights-and-competition-law.html.

Payumo, Jane G., et al. "An entrepreneurial, research-based university model focused on intellectual property management for economic development in emerging economies: The case of Bogor Agricultural University, Indonesia." *World Patent Information* 36 (2014): 22-31.

Perel, Maayan, and Niva Elkin-Koren. "Accountability in Algorithmic Copyright Enforcement." *Stanford Technology Law Review* 19, no. 3 (2017): 473-533

Posner, Eric A. "The regulation of groups: The influence of legal and nonlegal sanctions on collective action." *The University of Chicago Law Review* 63, no. 1 (1996): 133-197; Levinson, Daryl J. "Collective Sanctions." *Stanford Law Review* (2003): 345-428.

Prasetyo, Bagus Dwi. Pertanggungjawaban Pidana Korporasi dalam Tindak Pidana Paten Berdasarkan Undang-Undang Nomor 14 Tahun 2001 Tentang Paten. *Thesis*. (Surabaya: Untag Surabaya, 2014).

Priancha, Angga, et al. "Rethinking "Electronic Agent" Terminology in the Law on Electronic Information and Transaction from the Perspective of Indonesian Lastgeving Law." *Mimbar Hukum* 34, no. 2 (2022): 378-402.

Rachmadie, Donovan Typhano. "Regulasi Penyimpangan Artificial Intelligence Pada Tindak Pidana Malware Berdasarkan Undang-Udang Republik Indonesia Nomor 19 Tahun 2016." *Recidive: Jurnal Hukum Pidana Dan Penanggulangan Kejahatan* 9, no. 2 (2020): 128-156.

Rahman, Rofi Aulia, et al. "Constructing responsible artificial intelligence principles as norms: Efforts to strengthen democratic norms in indonesia and european union." *Padjadjaran Jurnal Ilmu Hukum (Journal of Law) (PJIH)* 9, no. 2 (2022): 231-252.

Rama, Bagus Gede Ari, Dewa Krisna Prasada, and Kadek Julia Mahadewi. "Urgensi Pengaturan Artificial Intelligence (AI) dalam Bidang Hukum Hak Cipta di Indonesia." *Jurnal Rechtens* 12, no. 2 (2023): 209-224.

Ramesh, Aditya, et al. "Zero-shot text-to-image generation." *Proceedings of the 38th International Conference on Machine Learning, PMLR* 139 (2021): 8821-8831.

Rawas, Soha. "AI: The Future of Humanity," *Discover Artificial Intelligence* 4, no. 1 (2024), https://doi.org/10.1007/s44163-024-00118-3.

Republic of Indonesia. *Law Number 12 of 1997 concerning Copyright*.
Republic of Indonesia. *Law Number 19 of 2002 concerning Copyright*.
Republic of Indonesia. *Law Number 20 of 2014 concerning Copyright*.
Republic of Indonesia. *Law Number 6 of 1982 concerning Copyright*.
Republic of Indonesia. *Law Number 7 of 1987 concerning Copyright*.
Riswandi, Budi Agus. "Patent Protection System for Computer Programs in Indonesia and Its Comparison with Several Countries: What's the Issue?." *NTUT Journal of Intellectual Property Law and Management* 9, no. 1 (2020): 18-33.
Ritawati, Ritawati, et al. "Copyright in the Digital Age in the Protection of Intellectual Property Rights in Indonesia." *International Conference on "Changing of Law: Business Law, Local Wisdom and Tourism Industry" (ICCLB 2023)*. Atlantis Press, 2023.
Rosati, Eleonora. "Copyright as an obstacle or an enabler? A European perspective on text and data mining and its role in the development of AI creativity." *Asia Pacific Law Review* 27, no. 2 (2019): 198-217.
Rushing, Francis W., and Mark A. Thompson. "Intellectual property protection, entrepreneurship, and economic growth." *Journal of Enterprising Culture* 4, no. 3 (1996): 267-285.
Sari, Nuzulia Kumala, Ayu Citra Santyaningtyas, and Anisah Anisah, "Orisinalitas Karya Cipta Lagu dan/atau Musik yang Dihasilkan Artificial Intelligence," *Jurnal Ilmiah Kebijakan Hukum* 17, no. 3 (2023): 365-284.
Setiawan, Andry, Rindia Fanny Kusumaningtyas, and Ivan Bhakti Yudistira. "Diseminasi Hukum Hak Cipta pada Produk Digital di Kota Semarang." *Jurnal Pengabdian Hukum Indonesia (Indonesian Journal of Legal Community Engagement)* 1, no. 1 (2018): 53-66.
Setiawati, Diana, and Nikita Kimberly Huang. "Intellectual Property Rights Analysis in the Context of Artificial Intelligence Development in the Indonesian Legal Context." *E-Justice: Journal of Law and Technology* 1, no. 1 (2024): 81-94.
Setiawati, Diana, Hary Abdul Hakim, and Fahmi Adam Hasby Yoga. "Optimizing Personal Data Protection in Indonesia: Lesson Learned from China, South Korea, and Singapore." *Indonesian Comparative Law Review* 2, no. 2 (2020): 95-109.
Shapiro, Carl. "Navigating the patent thicket: Cross licenses, patent pools, and standard setting." *Innovation Policy and the Economy* 1, no. 1 (2000): 119-150.

Sianturi, Novdin M., et al. "Relevancy technological innovation and community economic development in Indonesia." *Linguistics and Culture Review* 6, no. S3 (2022): 117-130.

Silitonga, Ferry, and M. Falikul Isbah. "Artificial intelligence and the future of work in the indonesian public sector." *Jurnal Ilmu Sosial dan Humaniora* 12, no. 2 (2023): 296-308.

Smits, Jan, and Tijn Borghuis. "Generative AI and intellectual property rights." In *Law and artificial intelligence: Regulating AI and applying AI in legal practice*. (The Hague: TMC Asser Press, 2022), pp. 323-344.

South Korea. *Copyright Act No. 14634, 2017.* Available online at https://elaw.klri.re.kr/eng_service/lawView.do?hseq=42726&lang=ENG

Stahl, Bernd Carsten. *Artificial intelligence for a better future: an ecosystem perspective on the ethics of AI and emerging digital technologies*. (London: Springer Nature, 2021).

Syafrinaldi Syafrinaldi, Noranida Mokthsim, and David Hardiago, "Brand Socialization for Small and Medium Enterprises (SMES) Industry Players in Kedah Malaysia as a Solution and Projection for Efforts to Provide Legal Certainty and Protection," *Community Engagement and Emergence Journal (CEEJ)* 5, no. 1 (2024): 54–65, https://doi.org/10.37385/ceej.v5i1.4193.

Syafrinaldi, Syafrinaldi. "Sejarah dan Teori Perlindungan Hak Kekayaan Intelektual." *Al-Mawarid: Jurnal Hukum Islam* 9, no. 1 (2003): 1-14.

Wendland, Wend B. "Intellectual property and the protection of traditional knowledge and Cultural expressions." In *Art and Cultural Heritage Law, Policy and Practice.* (New York: Cambridge University Press, 2006), pp. 327-339.

Weriansyah, Aditya, and Alvin Prima Ramadani. "The Analysis of Corporate Crime in Indonesia's Intellectual Property Laws." *Global Legal Review* 2, no. 1 (2022): 53-71.

Woleński, Jan. "Legal Reasoning and Logic." *Studia Humana* 13, no. 3 (2024): 18-22.

Yaqin, Aenul, and Dewi Sulistianingsih. "Copyright Protection in Digital Rights Management Systems: Legal and Technical Challenges in Implementing Effective Solutions." *Journal of Private and Commercial Law* 8, no. 1 (2024): 99-112.

Youm, Kyu Ho. "Copyright Law in the Republic of Korea." *UCLA Pacific Basin Law Journal* 17 (1999): 2-3.

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