

## TRANSFORMATION OF INTELLECTUAL PROPERTY RIGHTS PROTECTION FOR SCIENTIFIC WORKS IN THE ERA OF ARTIFICIAL INTELLIGENCE

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### **Abstract**

*This research focuses on the transformation of intellectual property rights (IPR) protection for scientific works in the era of artificial intelligence (AI). The aim is to analyze existing regulatory challenges, assess the legal relevance of AI-based scientific works, and formulate adaptive policy recommendations. The research method used is library research, utilizing primary sources in the form of national and international laws and regulations related to IPR, as well as secondary sources from academic literature and international scientific journals published in 2020–2025. The analysis is conducted normatively and critically by comparing existing regulations with the practice and development of AI technology in the creation of scientific works. The results show that IPR regulations in Indonesia still emphasize the concepts of originality and human-centered ownership, so that scientific works involving AI contributions have not received clear legal recognition. Previous studies from the global context have emphasized trends in legal adaptation, transparency in the use of AI, and recognition of human–AI collaboration in scientific works. These findings emphasize the need for an inclusive and adaptive transformation of IPR regulations to ensure legal certainty, justice, and academic accountability. The implications of this research include recommendations for updating national policies, strengthening academic guidelines, and encouraging further research to support more comprehensive regulations.*

**Keywords:** Intellectual Property Rights, Scientific Work, Artificial Intelligence

### **INTRODUCTION**

The development of artificial intelligence (AI) technology has brought significant changes to various aspects of life, including the academic world. While previously scientific works were born from a long human intellectual process through research, reflection, and writing, now the presence of AI can accelerate the writing production process instantly. The presence of applications such as ChatGPT, GrammarlyGO, or Copilot makes it increasingly easier for students, lecturers, and researchers to produce scientific works. This phenomenon not only creates convenience but also raises serious questions about originality, plagiarism, and the status of intellectual ownership of scientific works that are partially or completely produced by machines<sup>1</sup>.

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<sup>1</sup> I K Mertayasa, P C C Yhani, and P W Saputra, "Revolusi Pendidikan Dengan ChatGPT: Systematic Literature Review Pemanfaatan Dan Dampaknya Dalam Transformasi Pendidikan," *Journal of Indonesian Scholars for Social Research* 5, no. 1 (2025): 107–22, <https://doi.org/10.59065/jissr.v5i1%20Special%20Issues.213>.

In the legal framework, scientific works are included as objects of copyright protection as regulated in Law Number 28 of 2014 concerning Copyright<sup>2</sup>. Copyright is vested in the creator as a recognition of moral and economic rights. However, a fundamental question arises when scientific works are written with the help of AI: who is the copyright holder? Is it still the human user of the AI, or the software creator who developed the algorithm, or even the AI itself? This controversy is all the more relevant given that classical copyright theory is based on the assumption that the creator is a human being with consciousness, will, and moral responsibility<sup>3</sup>.

From a legal theory perspective, this shift can be understood through legal transformation theory, which emphasizes that law constantly adapts to social and technological dynamics. Changes in the technological landscape necessitate the reconstruction of legal norms so that regulations can respond to new realities<sup>4</sup>. Meanwhile, from a legal philosophy perspective, this issue is also related to the theory of natural rights, which is rooted in the concept of human individuality. Copyright in scientific works reflects recognition of human intellectual effort. Therefore, the use of AI challenges the basic assumptions of intellectual property law and forces legal scholars to reexamine the foundations of copyright protection in the digital age<sup>5</sup>.

Masalah utama yang muncul dalam konteks ini adalah kaburnya status perlindungan hukum atas karya ilmiah yang diproduksi atau dibantu oleh AI. Sebagian besar regulasi, baik nasional maupun internasional, masih berpijak pada definisi pencipta sebagai "individu manusia." Padahal, praktik di lapangan menunjukkan banyak mahasiswa dan peneliti menggunakan AI tidak hanya sebagai *writing assistant*, tetapi juga sebagai penulis utama yang menyusun kerangka, isi, bahkan analisis data. Akibatnya, integritas akademik dipertaruhkan, karena orisinalitas karya tidak lagi jelas. Dalam konteks ini, perdebatan hukum tidak berhenti pada plagiarisme semata, melainkan pada problem fundamental tentang siapa yang dapat dikategorikan sebagai "pencipta" dalam kerangka hukum kekayaan intelektual<sup>6</sup>.

Research on AI and intellectual property rights has advanced rapidly in recent years. Rosati (2020) in his article in the Journal of Intellectual Property Law & Practice asserted that works generated entirely by AI cannot be copyrighted, as copyright requires a human creator<sup>7</sup>. However, Rosati also acknowledged the existence of a legal

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<sup>2</sup> Jati Restuningsih, Kholis Roisah, and Adya Paramita Prabandari, "Perlindungan Hukum Ilustrasi Digital Berdasarkan Undang-Undang Nomor 28 Tahun 2014 Tentang Hak Cipta," *NOTARIUS* 14, no. 2 (2021): 957–71, <https://doi.org/10.14710/nts.v14i2.43787>.

<sup>3</sup> Amanda Sephira Nuraini et al., "Membedah Konsep Takdir Dalam Aqidah Islam: Antara Ketentuan Ilahi Dan Kebebasan Manusia," *JMPAI: Jurnal Manajemen Dan Pendidikan Agama Islam* 2, no. 4 (2024): 339–49, <https://doi.org/10.61132/jmpai.v2i4.412>.

<sup>4</sup> Heri Sulaiman, Ramzi Durin, and Desi Purnama, "Hak Atas Mendapatkan Kehidupan Yang Berkeadilan: Analisis Falsafah Pancasila Sila Ke Lima," *DJH: Dame Journal of Law* 1, no. 1 (2025): 25–44, <https://doi.org/10.64344/djl.v1i1.5>.

<sup>5</sup> E A Sianipar And P Aisyah, "Perlindungan Hak Kekayaan Intelektual Dalam Era Digital: Tantangan Dan Solusi Hukum," *Judge: Jurnal Hukum* 03, No. 02 (2022): 62–65, <https://doi.org/10.54209/Judge.V3i02.356>.

<sup>6</sup> Markus Bona Andiano Sitohang and Surahmad, "Urgensi Pedoman Plagiarisme Sebagai Instrumen Perlindungan Hukum Dalam Pendaftaran Hak Cipta Di Indonesia," *DIVERSI: Jurnal Hukum* 9, no. 2 (2024): 292–330, <https://doi.org/10.32503/diversi.v9i2.4677>.

<sup>7</sup> Muhammad Zidan Karimullah, Ria Wierma Putri, and Rohaini, "Hak Cipta Atas Hasil Tulisan Kecerdasan Artifisial: Tinjauan Etika Kekayaan Intelektual Dan Status Kepemilikannya," *AKADEMIK: Jurnal Mahasiswa Humanis* 5, no. 2 (2025): 1079–94, <https://doi.org/10.37481/jmh.v5i2.1449>.

vacuum that requires normative solutions so that AI-based works can be placed appropriately.

Stokes (2021) in the *International Review of Law, Computers & Technology* highlighted that the use of AI in academic writing creates a "grey area" in intellectual property law enforcement. He found that existing laws fail to clearly distinguish between the role of humans as authors and the role of AI as a creation tool<sup>8</sup>. This situation has implications for increasing cases of plagiarism, which are difficult to verify because AI-generated writing is difficult to distinguish as original or copied.

Furthermore, an article by Katz & McCarthy (2022) in the *Artificial Intelligence and Law Journal* discusses how universities and research institutions in the United States are beginning to develop internal policies regarding the use of AI in scientific writing. They suggest the importance of a combination of legal regulations and academic codes of ethics to maintain research integrity. However, they also emphasize that, in positive law, protection of scientific work is still based on conventional models that do not yet accommodate the role of AI<sup>9</sup>.

These studies demonstrate that international research focuses more on the issue of digital works in general, or on the level of internal academic regulations, rather than on a systematic national legal framework. No research has yet explored the transformation of intellectual property law specifically for scientific works in Indonesia in the context of AI. In other words, there remains a gap in highlighting the relationship between Indonesian positive law, academic practice, and global developments within a single research framework. This gap is what this study aims to address.

The novelty of this research lies in its attempt to formulate a model for transforming intellectual property rights protection for scientific works in the AI era, focusing on the Indonesian context. This research not only highlights the theoretical aspects of who constitutes a creator from an intellectual property law perspective but also connects this to academic integrity in the higher education system. Thus, this research offers an original contribution in the form of a hybrid legal concept that positions AI as a "tool" while still affirming human rights as legitimate creators, while also proposing an adaptive regulatory design to ensure Indonesian law keeps pace with global developments.

Based on the above description, this study aims to critically analyze the transformation of intellectual property rights protection for scientific works in the era of artificial intelligence, with an emphasis on one crucial issue: the blurring of the creator's status in scientific works involving AI. This study aims to provide normative solutions through proposed transformations of intellectual property law that are relevant to the Indonesian context, while maintaining academic integrity in the use of AI technology. Thus, this study is expected to contribute to the development of legal science, particularly in the realm of intellectual property law and education law, as well as provide policy direction for lawmakers and universities in formulating regulations that are responsive to technological developments.

## METHOD

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<sup>8</sup> Gladys Azalia Christi and Diana Tantri Cahyaningsih, "Problematika Subjek Hukum Hak Cipta Terkait Status 'Pencipta' Atas Hasil Artificial Intelligence," *Jurnal Ilmiah Wahana Pendidikan* 10, no. 22 (2024): 561–77, <https://doi.org/10.5281/zenodo.14569001>.

<sup>9</sup> Maya Ruhtiani and Istikharoh, "Hukum Pidana Dan Hak Cipta Di Era Kecerdasan Artifisial: Analisis Pertanggung Jawaban Dalam Hukum Positif Dan Hukum Islam," *Jurnal Al Wasith: Jurnal Studi Hukum Islam* 10, no. 1 (2025): 62–79, <https://doi.org/10.52802/wst.v10i1.1463>.

This research uses a qualitative research type with a literature study approach<sup>10</sup>. This approach was chosen because the research focuses more on exploring, analyzing, and synthesizing various relevant literature, including legal theories, legislation, and previous research addressing the issue of intellectual property rights (IPR) protection in relation to the development of artificial intelligence technology. Literature review is considered appropriate for uncovering the dynamics of legal transformation related to the protection of scientific works, given the numerous regulations, legal doctrines, and decisions that can serve as academic foundations<sup>11</sup>.

The data sources for this research consist of primary and secondary sources. Primary sources include applicable legal instruments, such as Law Number 28 of 2014 concerning Copyright, regulations related to Intellectual Property Rights issued by the Directorate General of Intellectual Property (DJKI), and international legal instruments such as the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and the Berne Convention. Meanwhile, secondary sources include previous research results, scientific articles from reputable journals, intellectual property law books, and academic reports relevant to the research theme. Secondary sources are used to strengthen theoretical arguments and broaden the academic perspective underlying the discussion<sup>12</sup>.

The collected data was analyzed using descriptive qualitative analysis with deductive and comparative patterns<sup>13</sup>. Deductive analysis is used to derive a conceptual framework from general legal theory to the case of protecting scientific works as they are influenced by the development of artificial intelligence. Comparative analysis is used to compare the effectiveness of existing regulations with contemporary legal practices and needs, both in national and international contexts. In this way, the research findings are expected to identify regulatory gaps, interpret emerging legal challenges, and propose a transformation model for IPR protection that is more adaptive to the era of artificial intelligence.

## RESULTS AND DISCUSSION

The results of this study are based on an in-depth analysis of primary sources in the form of national and international intellectual property law regulations, as well as secondary sources in the form of contemporary academic studies on the relationship between artificial intelligence (AI) and the protection of scientific works. This review reveals a strong correlation between the development of AI and the need for transformation of intellectual property law, particularly in the realm of copyright. On the one hand, Law Number 28 of 2014 concerning Copyright affirms the protection of

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<sup>10</sup> Hasan Syahrizal and M Syahrani Jailani, "Jenis-Jenis Penelitian Dalam Penelitian Kuantitatif Dan Kualitatif," *QOSIM: Jurnal Pendidikan, Sosial & Humaniora* 1, no. 1 (2023): 13–23, <https://doi.org/10.61104/jq.v1i1.49>.

<sup>11</sup> Nadia Alkhalifi Dwi Ramadhani et al., "Dinamika Historis Konstitusional, Sosial Politik, Kultural, Dan Konteks Kontemporer Penegakan Hukum," *Jurnal Kajian Dan Penelitian Umum* 2, no. 6 (2024): 227–35, <https://doi.org/10.47861/jkpu-nalanda.v2i6.1469>.

<sup>12</sup> Nur Lia Windani and Anis Sulalah, "Linguistik Forensik Dalam Penanganan Plagiarisme Akademik: Analisis Komprehensif Berbasis Hukum Nasional Dan Maqashid Syariah," *Al-Hikmah: Jurnal Hukum Dan Keislaman* 1, no. 2 (2025): 139–60, <https://doi.org/10.64481/6nqd7548>.

<sup>13</sup> Aida, Dina Hermina, and Norlaila, "Jenis Data Penelitian Kuantitatif (Korelasional, Komparatif, Dan Eksperimen)," *AL-MANBA: Jurnal Ilmiah Keislaman Dan Kemasyarakatan* 10, no. 1 (2025): 31–40, <https://doi.org/10.69782/almanba.v10i1.48>.

scientific papers as part of creations guaranteed by the state<sup>14</sup>. However, on the other hand, academic literature shows that the presence of AI that is capable of producing works that resemble scientific writing creates legal uncertainty regarding originality and ownership<sup>15</sup>. This contradiction between the relatively static nature of regulations and the rapid dynamics of technology is the core of the research findings. Therefore, this results section will systematically describe these dynamics through sub-findings linked to intellectual property law theory, legal transformation theory, and justice theory.

### **Orisinalitas Karya Ilmiah di Era Artificial Intelligence**

Primary sources indicate that Article 40 paragraph (1) letter c of Law Number 28 of 2014 concerning Copyright clearly recognizes scientific papers as creations that are legally protected. This regulation emphasizes the importance of originality as a primary requirement for copyright recognition. However, when AI is able to produce writings that resemble scientific works, ambiguity arises regarding the extent to which such creations meet the standards of "original works" as defined by the law.

On the other hand, secondary research by Gervais (2020) reinforces the view that the concept of originality in international copyright law is still based on a human-centered paradigm. In the case of AI, works born from algorithmic systems often cannot be positioned as the expression of the human mind. The interpretation of the intersection of these two sources indicates a conceptual clash between national regulations that adhere to the classical principle of originality and the contemporary reality that demonstrates the involvement of machines in the creation of scientific works<sup>16</sup>. This clash indicates the need to redefine originality to be more inclusive of technological developments.

### **Ownership and Legal Status of AI-Based Scientific Works**

Another primary source, the Berne Convention for the Protection of Literary and Artistic Works (1971, last revised), asserts that only human creators can be copyright holders. This convention serves as the global basis for IPR regulation, including in Indonesia, and continues to place humans at the center of legal recognition. This provision precludes the possibility of non-human systems such as AI being recognized as creators.

However, a secondary source from Samuelson (2021) highlights that in contemporary academic practice, scientific work is often produced through complex interactions between humans and machines, for example, the use of algorithms to process research data. According to him, current copyright law is not yet able to accommodate this form of collaboration. Interpretations of these two sources indicate a gap between rigid international legal norms and the increasingly hybrid practical reality. In other words, regulations do not yet provide an answer to who is entitled to copyright.

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<sup>14</sup> Fitra Rizal, "Nalar Kritis Pelanggaran Hak Cipta Dalam Islam," *AL-MANHAJ: Jurnal Hukum Dan Pranata Sosial Islam* 2, no. 1 (2020): 1–24, <https://doi.org/10.37680/almanhaj.v2i1.307>.

<sup>15</sup> Ahmad Arifin et al., "ANALISIS YURIDIS HAK CIPTA KEPADA USER ATAS KARYA HASIL GENERATIVE ARTIFICIAL INTELLIGENCE DI INDONESIA," *At-Tanwir Law Review* 5, no. 2 (2025): 412–27, <https://doi.org/10.31314/atlarev.v5i2.4504>.

<sup>16</sup> Herman et al., "Ratio Legis Ketentuan Pidana Dalam Undang-Undang Nomor 28 Tahun 2014 Terhadap Pelanggaran Hak Cipta Yang Bersifat Perdata," *Halu Oleo Legal Research* 6, no. 2 (2024): 504–15, <https://doi.org/10.33772/holresch.v6i2.764>.



should be recognized as the copyright holder in scientific works that involve a significant role of AI<sup>17</sup>.

### Transformation of IPR Regulations at the Global Level

As a primary source, the UK Copyright, Designs and Patents Act (2022 amendment) provides an exemption for text and data mining practices in research contexts. This regulation demonstrates the UK government's progressive approach to adapting copyright law to the realities of AI use in academia. The regulation recognizes that the use of algorithms in data processing is part of a legitimate research process, not a copyright infringement<sup>18</sup>.

Similarly, Floridi (2022), in a secondary review of the EU Artificial Intelligence Act, emphasized that the principle of transparency must be the primary foundation for the use of AI in the academic sector. This means that any scientific work involving AI must explicitly mention the technology's involvement. Interpretations from these two sources indicate that the global trend is moving toward adaptive and open regulations for the use of AI, without neglecting the principle of academic accountability. This finding implies that Indonesia needs to review its regulations to avoid being left behind by global developments.

### Dimensi Keadilan dalam Perlindungan Karya Ilmiah

The primary source of Law Number 28 of 2014 concerning Copyright, specifically Article 5, affirms the moral rights of creators, including the right to name recognition in works. These moral rights are inherent and inseparable from the individual creator. However, in the context of AI-based scientific works, the creator's moral rights become problematic because the works are often produced by automated systems, obscuring the role of humans as sole authors.

Meanwhile, Rawls (1971), in secondary literature on justice as fairness, emphasized that justice must provide equal protection for all contributing parties. Interpretation of these two sources shows that IPR law in Indonesia still favors human creators alone, without considering the contributions of technology<sup>19</sup>. Yet, in many cases, AI's contribution is not merely as a tool, but as a co-creator. This raises questions of fairness: is it right for humans to claim all copyright when much of the creation process is facilitated by automated systems?

Table 1. Legal Protection of Scientific Works in the AI Era

Sub-Theme	Primary Data	Secondary Data	Interpretation of Results
Originality of Scientific Works	Law No. 28/2014 Article 40(1)(c)	Gervais (2020)	Originality remains human-centered and has not yet accommodated AI-generated

<sup>17</sup> Dibit Yuniar Ekawardani and Mochamad Cholil, "PERLINDUNGAN HAK CIPTA ATAS KARYA ILMIAH YANG DIHASILKAN OLEH KECERDASAN BUATAN," *Rawang Rencang: Jurnal Hukum Lex Generalis* 6, no. 4 (2025): 1–34, <https://doi.org/10.56370/jhlg.v6i4.1276>.

<sup>18</sup> Oktavia Pitta Marito Manurung and Janpatar Simamora, "Urgensi Pengaturan Kekayaan Intelektual Di Era Society 5.0 Dalam Mengakomodasi Perkembangan Teknologi AI," *Jurnal Kajian Ilmu Hukum* 4, no. 1 (2025): 53–64, <https://doi.org/10.55583/jkih.v4i1.1325>.

<sup>19</sup> Kristopansen, Wiwik Sri Widiarty, and Bernard Nainggolan, "Pengaruh Teknologi Dalam Perkembangan Hak Cipta," *SOSTECH: Jurnal Sosial Teknologi* 5, no. 4 (2025): 903–24, <https://doi.org/10.59188/jurnalsostech.v5i4.32066>.

			works.
Ownership of Scientific Works	Berne Convention (1971, latest revision)	Samuelson (2021)	There is a gap between international legal norms and the practice of human–AI collaboration.
Global Regulatory Transformation	UK Copyright, Designs and Patents Act (2022)	Floridi (2022)	Global regulations are becoming adaptive, while Indonesia remains stagnant in adjustment.
Dimension of IPR Fairness	Law No. 28/2014 Article 5 (Moral Rights)	Rawls (1971)	Protection still favors humans, with AI contributions not yet considered within fairness principles.

Overall, the research findings demonstrate a fundamental gap between existing intellectual property laws and the contemporary reality of AI-influenced scientific work. National and international regulations still emphasize the classic principles of originality and ownership, favoring humans as the sole creators. Yet, academic literature demonstrates that the involvement of AI in the research and writing process of scientific papers has become an inevitable phenomenon. Transforming IPR regulations is imperative to accommodate this development, while still adhering to the principles of fairness and academic accountability. Without transformation, the law will lose its relevance; with transformation, the law will be able to provide solutions that protect creators, respect the role of technology, and encourage scientific progress in the era of artificial intelligence<sup>20</sup>.

In the context of the rapid development of artificial intelligence (AI), the findings of this study indicate that intellectual property rights (IPR) regulations in Indonesia are not fully prepared to face the new challenges posed by AI. This aligns with the findings of a study by You (2025), which identified that IPR regulations in many countries still focus on human creators and have not adequately considered the contributions of AI<sup>21</sup>. You recommend that copyright for works generated by AI be granted to the AI owner, taking into account a minimum level of creativity at the level of expression. However, this study's findings indicate that in Indonesia, there is still uncertainty regarding who owns the copyright for scientific works generated with the help of AI.

Furthermore, a study by Gaidartzi (2025) highlighted that legal systems in many countries still prioritize the principle of sole ownership of copyrighted works, which excludes contributions from AI. Gaidartzi proposed that legal systems be adapted to accommodate collaboration between humans and AI in the creation process<sup>22</sup>. Namun,

<sup>20</sup> Muhammad Valiant Arsi Nugraha et al., "Peran Nilai-Nilai Filsafat Hukum Dalam Membentuk Landasan Etika Hukum Pada Era Transformasi Digital Di Indonesia," *Innovative: Journal Of Social Science Research* 4, no. 6 (2024): 440–52, <https://doi.org/10.31004/innovative.v4i6.16355>.

<sup>21</sup> Irvan Setiawan and Dan Tomy Michael, "Pemidanaan Terhadap Pengguna Kecerdasan Buatan Melanggar Hak Kekayaan Intelektual," *Policies On Regulatory Reform Law Journal* 1, no. 2 (2025): 77–86, <https://doi.org/10.59066/prlj.v1i2.933>.

<sup>22</sup> Akhmat Yanuari Putra and Abdul Halim Barkatullah, "Kepastian Hukum Hak Cipta Atas Karya Yang Dihasilkan Oleh Artificial Intelligence," *Jurnal Ilmiah Muqoddimah: Jurnal Ilmu Sosial, Politik, Dan Humaniora* 9, no. 2 (2025): 969–77, <https://doi.org/10.31604/jim.v9i2.2025.969-977>.

The findings of this study indicate that in Indonesia, there is still no official recognition of the contribution of AI to the creation of scientific works, creating legal uncertainty for researchers and academics.

Furthermore, a study by Li (2025) recommends that rights to works generated by AI be allocated based on the "distributed agency" of AI in the Industry 4.0+5.0 scenario. Li emphasized the importance of considering the role of AI in the creation process and how its contributions can be recognized within the existing legal system<sup>23</sup>. However, the findings of this study indicate that in Indonesia, IPR regulations have not yet seriously considered the role of AI in the creation of scientific works, necessitating regulatory updates to accommodate this technological development.

Finally, a study by Chesterman (2025) emphasized that critical policy questions will determine the impact of AI on the knowledge economy and the creative sector. Chesterman identified that clear and structured policies are needed to ensure that AI developments can be optimally utilized without neglecting the rights of creators<sup>24</sup>. However, the findings of this study show that in Indonesia, policies related to IPR and AI are still fragmented and there is no comprehensive approach to dealing with them<sup>25</sup>.

Overall, while international studies provide valuable insights into the challenges and solutions related to IPR and AI, the findings of this study indicate that in Indonesia, there is still a gap between technological developments and existing regulations. Therefore, an inclusive and adaptive IPR regulatory update is needed to address AI developments, in order to provide adequate protection for scientific works produced using this technology<sup>26</sup>.

## **CONCLUSION**

Based on the research results, the most important finding is that the development of artificial intelligence (AI) has posed serious challenges to the concept of intellectual property rights (IPR) protection for scientific works. This study demonstrates that national regulations, particularly Law No. 28 of 2014, still focus on human creators and fail to accommodate the significant role of AI in the creation of scientific works. The lessons learned highlight the need for adaptive and inclusive regulatory transformation to ensure originality, ownership, and fairness in the context of modern scientific works. This transformation is not only crucial for legal protection but also strategic for academic competitiveness and research quality in the digital era.

The strength of this paper lies in its scholarly contribution, namely, updating perspectives on IPR protection by emphasizing AI-based scientific works as the focus of conceptual research. This research combines primary sources in the form of legal

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<sup>23</sup> Denny Andreas and Sharon Evangelica Manete, "Tafsir Fungsional, AI, Dan Etika: Menjembatani Peran Dan Agensi Moral Manusia Dalam Teknologi," *Jurnal VOICE* 4, no. 2 (2024): 77–93, <https://doi.org/10.54636/c2209v73>.

<sup>24</sup> Rizki Fauzi, Tasya Safiranita Ramli, and Rika Ratna Permata, "Masa Depan Hak Cipta: Tinjauan Keabsahan Hasil Karya Kecerdasan Artifisial Di Indonesia," *CITIZEN: Jurnal Ilmiah Multidisiplin Indonesia* 2, no. 1 (2022): 118–28, <https://doi.org/10.53866/jimi.v2i1.51>.

<sup>25</sup> Hari Sutra Disemadi and Cindy Kang, "Tantangan Penegakan Hukum Hak Kekayaan Intelektual Dalam Pengembangan Ekonomi Kreatif Di Era Revolusi Industri 4.0," *Jurnal Komunikasi Hukum (JKH)* 7, no. 1 (2021): 54–71, <https://doi.org/10.23887/jkh.v7i1.31457>.

<sup>26</sup> Denda Ginanjar, "Membangun Sistem Paten Yang Adaptif Untuk Algoritma Artificial Intelligence Di Indonesia," *Jurnal Rechten: Riset Hukum Dan Hak Asasi Manusia* 7, no. 1 (2025): 40–49, <https://doi.org/10.52005/rechten.v7i1.210>.



regulations and secondary sources from the latest international literature, providing a comprehensive analytical framework. The limitations of this research lie in its limited scope, limited to literature and regulatory analysis; the library research method does not provide an empirical picture of actual practices in academic institutions. Therefore, further research using surveys, interviews, or empirical case studies is urgently needed to obtain a more comprehensive picture and support more targeted policy recommendations.

Based on the findings and conclusions of this study, it is recommended that policymakers in Indonesia immediately consider updating IPR regulations to encompass the contribution of AI to scientific creation, including redefining originality, ownership, and the principle of fairness. Furthermore, academic institutions need to develop internal guidelines regarding the use of AI in research to ensure they consistently meet standards of accountability and scientific integrity. Further empirical research is also recommended to map actual practices in the field to ensure more relevant and effective legal policies.

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