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Copyright Protection for Artificial Intelligence-Generated Works: An Analysis of Indonesian Positive Law, Islamic Law, and a Comparative Study with China[1]

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Abstract:

The rapid advancement of Artificial Intelligence (AI) has fundamentally transformed the process of creating copyrighted works, giving rise to complex legal issues concerning authorship, originality, and copyright ownership. Indonesian copyright law continues to adopt a human-centered authorship approach but has yet to establish clear legal standards for determining copyright protection for AI-generated works. This study aims to analyze the regulation of AI-generated works under the copyright systems of Indonesia and China and to formulate a reconstructed copyright protection model suitable for implementation in Indonesia. Employing normative legal research with statutory, conceptual, and comparative approaches, this study examines Law Number 28 of 2014 concerning Copyright, the Copyright Law of the People's Republic of China (Amendment 2020), and the Beijing Internet Court decision in LI v. LIU (2023). The findings reveal that Indonesia lacks objective legal parameters for assessing human creative contribution in AI-assisted creative processes, whereas China has adopted a more adaptive approach by recognizing copyright protection based on identifiable human intellectual contribution. From the perspective of Islamic law, AI is regarded as a technological instrument (*wasīlah*) rather than an independent legal subject, while intellectual property rights remain vested in human beings under the concepts of *ḥaqq al-ibtikār* and *huqūq māliyyah*, consistent with the objectives of *Maqāṣid al-Sharī'ah*. Accordingly, this study proposes the Human Creative Contribution (HCC) model as the principal basis for attributing copyright ownership to AI-generated works, thereby strengthening legal certainty while preserving the human-centered philosophy of copyright.

Keywords: Artificial Intelligence; Copyright; Human Creative Contribution; Comparative Law; Islamic Law

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A. INTRODUCTION

The development of Artificial Intelligence (AI) has fundamentally changed the process of creating intellectual works across various fields. The ongoing digital transformation in the era of the Fourth Industrial Revolution has accelerated the emergence of generative technologies capable of producing diverse forms of creative works, including text, images, music, videos, and computer code through data processing and machine learning. The emergence of technologies such as ChatGPT, Midjourney, Stable Diffusion, and other generative AI systems demonstrates that AI no longer functions merely as an assistive tool but has become actively involved in creative processes that were previously performed exclusively by humans (Floridi & Chiriatti, 2020). This development has created new challenges for copyright law, which has traditionally been built upon the assumption that copyrighted works originate from human creativity.

The increasing use of AI in creative activities indicates that the legal status of AI-generated works is no longer merely a theoretical issue but has become a practical legal concern (Rauf, 2026). In Indonesia, a survey conducted by the Katadata Insight Center (2024) involving 1,255 respondents across 38 provinces found that 64.7% had used AI technology in their daily activities, including information retrieval, digital content creation, and other productive purposes. Meanwhile, the China Internet Network Information Center (CNNIC) reported that by June 2025, the number of generative AI users in China had reached 515 million, representing approximately 36.5% of the country's internet users. These figures demonstrate that AI has become an integral component of the digital ecosystem and creative industries in both countries, thereby creating an urgent need for legal certainty regarding copyright protection for AI-assisted works.

Legal issues arise because AI-generated works are not created entirely by humans, as traditionally required under copyright law. In Indonesia, Article 1 paragraph (2) of Law Number 28 of 2014 concerning Copyright defines an author as one or several persons who produce an original and distinctive work. Furthermore, Article 1 paragraph (3) stipulates that a copyrighted work is the result of human intellectual ability, thought, imagination, dexterity, skill, or expertise. These provisions demonstrate that Indonesian copyright law remains firmly grounded in the principle of human-centered authorship, recognizing humans as the primary source of creativity and the legal subjects entitled to copyright protection. Consequently, legal uncertainty arises when a work is produced through collaboration between humans and AI systems, particularly in determining whether limited human involvement through prompt engineering, parameter configuration, or output selection satisfies the creativity requirement under copyright law (Mayana et al., 2024).

From the perspective of Islamic law, humans are likewise regarded as the primary legal subjects who bear responsibility for their actions and creative achievements (Ruhtiani, 2025). Within the framework of Islamic commercial jurisprudence (*fiqh muamalah*), intellectual creations are recognized under the concept of *ḥaqq al-ibtikār* (the right to intellectual innovation), which contemporary Muslim scholars generally classify as part of *huqūq māliyyah* (proprietary rights) deserving legal protection because they originate from human effort, reasoning, and creativity. Accordingly, Artificial Intelligence is viewed

merely as a means (*wasīlah*) that facilitates the creative process, while legal responsibility and ownership of the resulting work remain vested in the human user who initiates, directs, and controls the AI system (Siddique & Butt, 2025). This perspective is consistent with the objectives of Maqāṣid al-Sharī'ah, particularly the protection of intellect (*ḥifẓ al-'aql)* as the foundation of innovation and the protection of property (*ḥifẓ al-māl*) as the basis for recognizing economic rights arising from intellectual creations (Nurani, Apriwandi & Bagja, 2026). Therefore, both positive law and Islamic law regard AI not as a legal subject capable of independently owning copyright, but as a technological instrument whose outputs remain legally attributable to human creative contribution.

On the other hand, developments in several jurisdictions demonstrate ongoing efforts to adapt copyright law to advances in AI technology. One significant example can be found in China's legal system. The Copyright Law of the People's Republic of China (Amendment 2020) adopts the concept of intellectual achievement as the basis for copyright protection without explicitly requiring that every element of expression be manually created by humans. This approach has been reinforced through judicial practice, particularly in the 2023 decision of the Beijing Internet Court in LI v. LIU. In this case, the court held that an image generated using Stable Diffusion was eligible for copyright protection because the human user had made a substantial intellectual contribution through prompt design, parameter selection, system control, and final output selection. Nevertheless, the court emphasized that AI itself could not be recognized as the author because it lacks legal personality and legal capacity as a rights holder (Beijing Internet Court, 2023).

Previous studies have extensively examined the relationship between Artificial Intelligence and copyright law. Gaffar and Albarashdi (2025), along with Tektona et al. (2021), compared legal approaches to AI-generated works across several jurisdictions and demonstrated significant differences in how the legal status of AI-generated creations is determined. Rokmahwati & Amiludin (2025) and Mayana et al. (2024) analyzed legal issues concerning ownership, authorship, and copyright protection of AI-generated works within the Indonesian legal framework. Meanwhile, Jubaidi & Khoirunnisa (2025) and Liantari and Sawitri (2025) emphasized the urgent need for more comprehensive regulations governing AI-generated works due to the absence of specific legal provisions in Indonesia. Nevertheless, these studies primarily focus on identifying normative legal issues and determining the legal status of AI-generated works. They have not developed a conceptual model to establish legal parameters for attributing copyright ownership arising from the interaction between human creators and AI systems.

Based on these circumstances, a significant research gap remains: there is no conceptual framework for measuring human creative contribution as the basis for determining copyright protection for AI-generated works in Indonesia. The principal issue is no longer whether AI can become an author, but rather to what extent human involvement in operating AI systems satisfies the originality and creativity requirements established under copyright law. The absence of clear legal parameters may create uncertainty regarding copyright ownership, registration procedures, the commercialization of AI-assisted works, and the resolution of future copyright disputes.

The novelty of this research lies in proposing a reconstructed copyright protection model based on the principle of human creative contribution for works generated through Artificial Intelligence systems. To achieve this objective, this study employs a comparative legal approach between Indonesia and China to identify regulatory characteristics, judicial practices, and legal parameters for evaluating human creative contribution in AI-assisted creative processes. Furthermore, this study incorporates the values of Islamic law as an ethical and philosophical foundation affirming that intellectual property rights fundamentally belong to human beings as the parties who bear legal and moral responsibility for the use of AI technology. Accordingly, this research not only compares the copyright regimes of Indonesia and China but also proposes a conceptual framework that may serve as a foundation for the future development of Indonesian copyright law in responding to AI-driven technological transformation.

Based on the foregoing discussion, this study aims to analyze the legal regulation of AI-generated works under the copyright systems of Indonesia and China and to formulate a reconstructed copyright protection model that is suitable for implementation within the Indonesian legal system.

B. METHODE

Conceptual approach and comparative approach. Normative legal research is adopted because the study focuses on analyzing legal norms governing copyright protection for Artificial Intelligence (AI)-generated works and their relevance to the development of digital technology. This approach enables a systematic examination of positive law, legal doctrines, legal principles, and judicial practices concerning the legal status of works produced through AI systems (Soekanto & Mamudji, 2015).

The statutory approach is applied to analyze the provisions of Law Number 28 of 2014 concerning Copyright of Indonesia and the Copyright Law of the People's Republic of China (as amended in 2020). The analysis focuses on identifying legal provisions concerning authorship, copyrighted works, originality, and the legal basis for copyright protection applicable to AI-generated works. The conceptual approach is employed to examine legal doctrines concerning authorship, human creativity, intellectual achievement, and copyright protection in the era of Artificial Intelligence, as developed in contemporary intellectual property law scholarship.

The comparative approach is used to compare the copyright regimes of Indonesia and China in regulating AI-generated works. China is selected as the comparative jurisdiction due to its progressive regulatory framework and judicial practice that recognize AI-generated works, particularly the Beijing Internet Court's decision in LI v. LIU (2023). The comparison focuses on several key aspects, including the concept of copyrightable works, legal authorship, the originality requirement, the recognition of AI-generated works, and the evidentiary standards for assessing human creative contribution in the creative process.

The legal materials used in this study consist of primary, secondary, and tertiary legal materials. Primary legal materials include Law Number 28 of 2014 concerning Copyright, the Copyright Law of the People's Republic of China (Amendment 2020), and the Beijing Internet Court Decision No. 11279 of 2023 in LI v. LIU. Secondary legal materials comprise textbooks, scholarly articles, national and international journal publications, and previous studies discussing copyright and Artificial Intelligence. Tertiary legal materials include legal dictionaries, legal encyclopedias, and other references supporting the understanding of the research concepts.

Legal materials are collected through library research by identifying, classifying, and examining legal sources relevant to the research object. Subsequently, the collected materials are analyzed qualitatively through legal interpretation, legal reasoning, and comparative legal analysis to identify similarities, differences, and the legal implications of the copyright frameworks in Indonesia and China. The findings are then utilized to formulate a reconstructed copyright protection model based on the principle of human creative contribution as the basis for attributing copyright ownership to works generated through Artificial Intelligence systems within the Indonesian legal framework

C. RESULTS AND DISCUSSION

1. Copyright Protection Issues for Artificial Intelligence-Generated Works

The rapid development of generative Artificial Intelligence (AI) has fundamentally transformed the paradigm of authorship within the modern copyright system. Unlike conventional digital technologies that merely serve as supporting tools, generative AI systems can independently produce a range of creative expressions from training datasets and user instructions. This capability has created new legal challenges because copyright law has traditionally been constructed upon the assumption that a protected work originates from human intellectual activity. When a work is generated through the interaction between a human user and an AI system, fundamental legal questions arise concerning the party entitled to copyright protection and the legal basis for attributing authorship to such works.

From a theoretical perspective, copyright law is founded upon the doctrine of authorship, which recognizes human beings as the primary source of creativity and the legal subjects entitled to exclusive rights over their intellectual creations (Christi & Cahyaningsih, 2024). This principle developed from the understanding that a copyrightable work must originate from human intellectual effort and be expressed in a tangible form capable of legal protection. Consequently, human creativity is the essential foundation for determining whether copyright protection exists. However, the emergence of generative AI has increasingly blurred the distinction between human creative activity and computational processes performed by Artificial Intelligence systems (Floridi & Chiriatti, 2020).

The legal complexity becomes even greater because human participation in the creative process is no longer limited to the direct production of the final work. Instead,

human involvement frequently consists of prompt engineering, parameter configuration, model selection, output curation, and post-generation editing of AI-generated content. Under these circumstances, the resulting work cannot reasonably be categorized as either entirely human-created or entirely machine-generated. Consequently, considerable scholarly debate has emerged over whether such human involvement is sufficient to satisfy the creativity requirement that has traditionally underpinned copyright protection (Gervais, 2021).

This debate extends beyond determining legal authorship and directly concerns the doctrine of originality, a fundamental requirement for copyright protection. Modern copyright doctrine generally measures originality not by absolute novelty but by the existence of intellectual contribution attributable to the author. Difficulties arise because a substantial portion of the technical creative process is performed autonomously by AI systems that operate on algorithms and training data. As a result, distinguishing between expressions reflecting genuine human creativity and outputs primarily generated through computational processes has become increasingly challenging (Guadamuz, 2024).

In practice, the absence of a clear legal standard for assessing human creative contribution also affects numerous aspects of copyright law, including ownership, copyright registration, commercial exploitation, licensing, and dispute resolution. Without objective legal parameters establishing the degree of human involvement required for copyright protection, legal certainty for creators, creative industries, and AI users becomes increasingly fragile. Such uncertainty has the potential not only to inhibit technological innovation but also to generate new legal disputes concerning the commercialization and exploitation of AI-generated works (Mayana et al., 2024).

From the perspective of Islamic law, this issue may likewise be examined through the principles of fiqh muamalah governing ownership and intellectual effort. Contemporary Islamic jurists generally recognize intellectual creations under the concept of *ḥaqq al-ibtikār* (the right to intellectual innovation), classifying them as part of huqūq māliyyah(proprietary rights) because they originate from legitimate human reasoning, effort, and creativity. Accordingly, AI is understood not as an independent creator but merely as a wasīlah (instrument or means) assisting human beings in producing creative works (Saputra & Afandi, 2025). Consequently, the legal consequences arising from AI-assisted works, including ownership, responsibility, and economic rights, remain attributable to the human user who intentionally directs and controls the creative process. This perspective is also consistent with the objectives of *Maqāṣid al-Sharīʿah*, particularly *ḥifẓ al-ʿaql* (the protection of intellect) and *ḥifẓ al-māl* (the protection of property). In the context of copyright, *ḥifẓ al-ʿaql* should not be understood merely as safeguarding freedom of thought or intellectual capacity, but also as encouraging the production of knowledge, creativity, innovation, and scientific achievement that result from lawful human intellectual endeavor. Copyright protection therefore serves as a legal mechanism to preserve and reward such intellectual production. At the same time, *ḥifẓ al-māl* provides the normative basis for protecting the economic interests arising from intellectual creations, ensuring that authors retain legitimate control over the commercial exploitation of their works (Danni, 2025).

The recognition of intellectual property rights within Islamic jurisprudence may also be traced to classical legal doctrines concerning proprietary rights and lawful acquisition of wealth. Although classical jurists did not specifically discuss copyright in its contemporary form, principles such as *al-māl al-mustafād* (lawfully acquired property) and *ḥaqq al-ikhtiṣāṣ* (exclusive rights over lawful interests) provide an important jurisprudential basis for recognizing intangible assets as objects of legal protection. Through the method of *qiyās* (analogical reasoning), contemporary Muslim scholars extend these principles to intellectual creations because they possess economic value, arise from lawful human endeavor, and can be enjoyed exclusively by their creators. This classical foundation demonstrates that Islamic jurisprudence possesses sufficient doctrinal flexibility to accommodate new forms of property, including intellectual property generated through technological development, while maintaining that proprietary rights remain inseparable from human intellectual effort.

This doctrinal development has also received institutional recognition through the International Islamic Fiqh Academy (*Majmaʿ al-Fiqh al-Islāmī*) of the Organization of Islamic Cooperation (OIC). Resolution No. 43 (5/5) of the Fifth Session (1988) recognizes copyrights, patents, trademarks, and other intellectual creations as legitimate proprietary rights (*ḥuqūq māliyyah*) that deserve legal protection and may not be infringed without the consent of their lawful owners. Consequently, Islamic legal doctrine consistently attributes ownership of intellectual creations to human beings who intentionally exercise creativity, judgment, and responsibility. This institutional position further reinforces the argument that Artificial Intelligence functions merely as a *wasīlah* (instrument), whereas copyright ownership remains vested in the human creator, whose meaningful intellectual contribution determines the work's final expression.

The Islamic legal perspective therefore reinforces rather than contradicts the fundamental philosophy of contemporary copyright law. Both legal systems reject the notion of recognizing AI as an autonomous legal subject capable of holding copyright independently. Instead, both emphasize that legal protection should remain attached to the human creator whose intellectual judgment, creative intention, and meaningful contribution shape the final expression embodied in the work. This convergence demonstrates that the principal legal issue is no longer whether AI should be recognized as an author, but rather how legal systems should determine the minimum threshold of human creative contribution necessary for copyright attribution.

Accordingly, the principal challenge presented by AI-generated works is not the legal recognition of Artificial Intelligence as an author. Rather, the more pressing issue concerns the development of objective legal standards capable of identifying and measuring meaningful human creative contribution throughout the AI-assisted creative process. The discussion should therefore move beyond the question of whether AI can own copyright toward establishing legal criteria that ensure copyright protection remains firmly grounded in human intellectual creativity while accommodating the realities of emerging technological innovation.

Regulation of AI-Generated Works under the Copyright Systems of Indonesia and China

The rapid advancement of Artificial Intelligence has compelled many jurisdictions to address new challenges within copyright law, particularly regarding the legal status of works generated through AI systems. Distinct regulatory approaches can be observed between Indonesia and China in defining the relationship between human creativity and Artificial Intelligence. These differences are reflected not only in their statutory provisions but also in the practical application of copyright law to works produced through the interaction between human users and AI technologies.

Under the Indonesian legal system, copyright protection continues to be founded upon the traditional paradigm that an author is a human being who creates a work through intellectual ability. Article 1 paragraph (2) of Law Number 28 of 2014 concerning Copyright defines an author as one or several persons who individually or jointly produce an original and distinctive work. Furthermore, Article 1 paragraph (3) provides that a copyrighted work is the result of human intellectual ability, thought, imagination, dexterity, skill, or expertise. These provisions clearly demonstrate that Indonesian copyright law remains firmly grounded in a human-centered approach to authorship, recognizing humans as both the primary source of creativity and the only legal subjects entitled to copyright protection.

This legal construction is further reinforced by Article 40 of Law Number 28 of 2014, which enumerates various categories of copyrightable works, including literary works, musical compositions, artistic works, photographs, cinematographic works, computer programs, and derivative creations. Although the scope of protected subject matter is relatively broad, the legislation does not expressly address works generated through Artificial Intelligence systems. Consequently, legal uncertainty arises regarding the copyright status of works created through collaborative interactions between humans and AI, particularly where human participation consists primarily of prompt engineering, parameter configuration, AI model selection, output curation, and post-generation editing rather than direct manual creation (Mayana et al., 2024).

These circumstances indicate that Indonesian copyright law continues to rely upon a conventional understanding of creativity in which intellectual expression is presumed to arise directly from human activity. As a result, no legal parameters currently exist for evaluating the various forms of human creative contribution involved in AI-assisted creation. This regulatory gap creates uncertainty regarding copyright ownership, registration procedures, and the enforcement of rights in AI-generated works.

From the perspective of Islamic law, the Indonesian approach is fundamentally consistent with the principle that legal rights and obligations arise only from human agency. Islamic jurisprudence recognizes intellectual property as a legitimate proprietary right (*ḥaqq al-ibtikār*) because it represents the product of human reasoning, effort, and creativity. Consequently, Artificial Intelligence cannot independently acquire ownership over the works it generates because it lacks legal personality (*ahliyyah*) and moral accountability. Instead, AI functions merely as a technological instrument (*wasīlah*), while the legal consequences of its utilization—including ownership, responsibility, and economic rights—remain attached to the individual exercising intellectual control over the creative process. This interpretation reflects the objectives of *Maqāṣid al-Sharī'ah*, particularly *ḥifẓ al-'aql* (protection of intellect) and *ḥifẓ al-māl* (protection of property), which

encourage innovation while ensuring that proprietary rights remain attributable to human beings (Satyawan & Busthomi, 2026).

Unlike Indonesia, China's copyright system demonstrates a more adaptive response to technological advancement. The *Copyright Law of the People's Republic of China* (Amendment 2020) defines copyrightable works as intellectual achievements in the fields of literature, art, and science that are original and capable of being expressed in a tangible form. Rather than explicitly emphasizing human creativity as the exclusive source of authorship, Chinese copyright law focuses primarily on intellectual achievement and originality as the legal foundations for copyright protection.

This legislative approach provides greater interpretative flexibility in accommodating emerging forms of creative expression resulting from technological innovation. In addition to recognizing traditional categories of protected works, Chinese copyright law also protects works not expressly enumerated in the legislation, provided they satisfy the requirements of originality and fixed expression. Such flexibility enables the Chinese legal system to respond more effectively to the emergence of AI-generated works without requiring immediate statutory amendments.

The adaptability of the Chinese approach is further demonstrated through judicial practice, particularly in the Beijing Internet Court decision in *LI v. LIU* (2023). In this landmark case, the court held that an image generated using Stable Diffusion qualified for copyright protection because substantial human intellectual contribution was evident throughout the creative process. The court identified several relevant indicators of creativity, including prompt engineering, model selection, parameter configuration, output curation, and final editing before publication. At the same time, the court explicitly emphasized that Artificial Intelligence itself could not be recognized as the legal author because it lacks legal personality and the capacity to hold rights (Beijing Internet Court, 2023).

From an Islamic legal perspective, this judicial reasoning closely aligns with the concept that ownership over intellectual creations remains inseparable from the human actor responsible for directing and controlling the creative process. Although AI performs computational tasks that significantly contribute to the technical production of the final output, such technological functionality does not replace human intention (*niyyah*), judgment, or intellectual effort. Consequently, both Chinese judicial practice and Islamic legal doctrine ultimately converge in recognizing meaningful human contribution—not autonomous machine operation—as the principal basis for attributing legal rights over AI-assisted works.

Overall, the fundamental distinction between Indonesia and China does not concern whether Artificial Intelligence should be recognized as an author. Rather, the divergence lies in how each legal system evaluates human creative contribution throughout the AI-assisted creative process. Indonesia continues to emphasize direct human creativity as the principal criterion for copyright protection, whereas China increasingly evaluates creativity according to the degree of intellectual control and contribution exercised by the human user during the production process. These comparative characteristics are summarized in Table 1.

Table 1. Comparative Analysis of Copyright Protection for AI-Generated Works in Indonesia and China

Aspect	Indonesia	China
Concept of Copyrightable Work	Product of human intellect, imagination, and expertise	Original intellectual achievement
Legal Author	Human author	Human author
Categories of Protected Works	Limited to classifications under Article 40 of the Copyright Law	More flexible and open to emerging forms of creative works
Recognition of AI-Generated Works	Not explicitly regulated	Recognized through judicial interpretation
Originality Standard	No specific standard for AI-generated works	Based on human intellectual contribution
Evidentiary Standard	No specific evidentiary framework	Prompt engineering, parameter configuration, output curation, editing, and system metadata
Degree of Legal Certainty	Relatively limited	More adaptive to technological development

Source: Compiled by the author based on Law Number 28 of 2014 concerning Copyright, the Copyright Law of the People's Republic of China (Amendment 2020), and the Beijing Internet Court Decision No. 11279 of 2023.

As demonstrated in Table 1, the principal challenge in protecting AI-generated works does not lie in recognizing Artificial Intelligence as a legal author. Instead, the central issue concerns the absence of objective legal parameters for measuring meaningful human creative contribution throughout the AI-assisted creative process. Therefore, a comprehensive evaluation of the limitations of the Indonesian copyright framework is necessary to formulate a more adaptive model of copyright protection that accommodates future technological developments while preserving the fundamental principle that copyright remains a human-centered legal institution.

Beyond the comparison between Indonesia and China, recent international developments likewise demonstrate a growing consensus that copyright protection should remain human-centered despite the increasing use of Artificial Intelligence in creative processes. Although different jurisdictions adopt distinct regulatory approaches, most

continue to reject the recognition of AI as an independent legal author while emphasizing meaningful human intellectual contribution as the principal basis for copyright protection. These developments indicate that the legal challenge is not whether AI should become a rights holder, but rather how legal systems should evaluate and verify human creativity in AI-assisted works. The comparative overview is presented in Table 2.

Table 2. International Approaches to Copyright Protection for AI-Generated Works

Jurisdiction	Legal Approach	Position on AI Authorship	Relevance to HCC Model
United States	Human authorship requirement under US Copyright Office guidance (2023)	AI cannot be recognized as an author; copyright only protects human creative expression	Supports evaluation of human creative contribution
European Union	AI Act (2024) regulates AI systems, while copyright remains governed by existing copyright directives emphasizing human creators	AI is not recognized as a copyright holder	Reinforces accountability and human control in AI-assisted creation
United Kingdom	Copyright, Designs and Patents Act 1988, Section 9(3), recognizes authorship of computer-generated works as the person making the necessary arrangements	AI is not treated as a legal person; authorship remains attributable to humans	Demonstrates statutory recognition of human responsibility for AI-generated outputs

Source: Compiled by the Author based on the U.S. Copyright Office (2023), European Union AI Act (2024), and the UK Copyright, Designs and Patents Act 1988.

As illustrated in Table 2, international copyright developments consistently preserve the principle of human-centered authorship despite adopting different legislative and regulatory techniques. The United States emphasizes human authorship as an indispensable requirement for copyright protection; the European Union focuses on regulating AI systems while maintaining existing copyright principles; and the United Kingdom attributes authorship of computer-generated works to the person making the necessary arrangements rather than to the technology itself. These developments further support the Human Creative Contribution (HCC) model proposed in this study, as all three

jurisdictions ultimately locate copyright ownership in meaningful human intellectual participation rather than autonomous machine operation.

These international developments are further reflected in the ongoing discussions conducted by the World Intellectual Property Organization (WIPO) through the *WIPO Conversation on Intellectual Property and Artificial Intelligence*. Since its launch in 2019, this global forum has brought together governments, academics, legal practitioners, and technology experts to examine emerging issues relating to AI-generated works, authorship, ownership, inventorship, data use, and intellectual property policy. Although WIPO has not yet adopted a uniform international legal standard for copyright protection of AI-generated works, its discussions consistently emphasize the importance of preserving legal certainty while ensuring that intellectual property frameworks can accommodate technological innovation. The proposed Human Creative Contribution (HCC) model aligns with this international policy direction by maintaining human-centered copyright attribution while providing objective parameters for evaluating human creativity in AI-assisted works.

Comparative Evaluation and Weaknesses of the Indonesian Copyright Framework

The comparative analysis demonstrates that the fundamental distinction between the copyright systems of Indonesia and China does not concern the recognition of Artificial Intelligence as an author. Instead, the principal difference lies in each legal system's capacity to identify and evaluate meaningful human creative contribution throughout the AI-assisted creative process. Both jurisdictions consistently recognize human beings as the only legal subjects capable of acquiring copyright protection. However, they differ significantly in how they determine the legal standards for assessing human involvement in the creation of AI-generated creative works.

Within the Indonesian copyright system, the concepts of authorship and copyrightable works continue to be constructed upon the traditional paradigm that assumes human beings directly create intellectual works. Articles 1 paragraph (2) and 1 paragraph (3) of Law Number 28 of 2014 concerning Copyright explicitly associate copyrightable works with human intellectual ability, imagination, skill, and expertise. Although these provisions provide legal certainty for conventional forms of creation, they become increasingly inadequate when applied to works generated through collaboration between humans and Artificial Intelligence systems.

The first weakness of the Indonesian legal framework lies in the absence of normative parameters for evaluating the creative contribution of humans in AI-assisted creation. The Copyright Law does not explain which forms of human involvement should satisfy the creativity requirement when a work is produced through Artificial Intelligence. Consequently, no clear legal basis exists for determining whether prompt engineering, parameter configuration, AI model selection, output curation, or post-generation editing constitute sufficient creative contribution to justify copyright protection. This legal uncertainty creates substantial difficulties in determining ownership over AI-generated works and may undermine legal certainty for creators and copyright holders (Mayana et al., 2024).

The second weakness concerns the doctrine of originality. Indonesian copyright law requires that every protected work contains an element of creativity; however, it provides no objective criteria for evaluating originality in AI-assisted works. In practice, generative AI outputs often result from a combination of human instructions and autonomous algorithmic processing. Consequently, determining whether originality primarily reflects human intellectual creativity or computational processing becomes highly subjective, creating the potential for inconsistent judicial interpretation and legal uncertainty in future copyright disputes.

The third weakness relates to evidentiary standards. In copyright litigation, individuals claiming authorship must demonstrate that they have made a sufficient intellectual contribution to the creation of the disputed work. Nevertheless, Indonesian copyright law currently provides no evidentiary framework for assessing human participation in AI-assisted creative processes. Without legally recognized indicators for measuring human involvement, courts may encounter significant challenges in resolving disputes involving AI-generated works as the commercial use of such works continues to expand.

From the perspective of Islamic law, these regulatory shortcomings similarly create uncertainty regarding the attribution of rights (*isnād al-ḥaqq*) and legal responsibility (*mas'ūliyyah*). Islamic jurisprudence consistently links ownership to lawful human effort (*kasb*) and intentional intellectual activity rather than to autonomous technological processes. Consequently, the absence of clear legal standards governing AI-assisted creativity may create ambiguity regarding the legitimate ownership of intellectual property, even though Islamic legal doctrine clearly holds that rights over intellectual creations remain vested in human beings who intentionally exercise creativity and judgment. Accordingly, the development of objective legal parameters for evaluating human creative contribution is not only compatible with contemporary copyright doctrine but also consistent with the principles of *ḥifẓ al-'aql* (protection of intellect) and *ḥifẓ al-māl* (protection of property) embodied within *Maqāṣid al-Sharī'ah*.

By contrast, the Chinese copyright system demonstrates greater adaptability through the interaction between statutory interpretation and judicial practice. Although the *Copyright Law of the People's Republic of China* (Amendment 2020) does not expressly regulate AI-generated works, its reliance upon the concept of intellectual achievement provides judges with greater interpretative flexibility than the more rigid statutory classifications adopted under Indonesian copyright law. Rather than focusing exclusively on conventional methods of authorship, Chinese courts can evaluate the substance of human intellectual contribution in technologically assisted creative processes.

This approach is clearly illustrated by the Beijing Internet Court's decision in *LI v. LIU* (2023). Rather than asking whether the work had been produced using Artificial Intelligence, the court concentrated on whether identifiable human intellectual contribution existed throughout the creative process. The court consequently evaluated several objective indicators, including prompt engineering, AI model selection, parameter adjustment, output curation, and post-generation editing, before concluding that the work satisfied the originality requirement necessary for copyright protection. Importantly, the court

simultaneously reaffirmed that Artificial Intelligence itself could not qualify as a legal author because it lacks legal personality and legal capacity.

This judicial reasoning also closely corresponds to Islamic legal doctrine. Although AI may perform sophisticated computational functions, it lacks legal accountability (*taklīf*), independent legal personality (*ahliyyah*), or intentional creative will (*irādah*). Therefore, Islamic jurisprudence likewise rejects the possibility of recognizing AI as an independent holder of intellectual property rights. Instead, ownership remains attached to the human individual whose knowledge, intention, and intellectual effort determine the final form of the protected work. In this respect, the Chinese judicial approach and Islamic legal philosophy arrive at substantially similar conclusions despite originating from different legal traditions.

Based on this comparative evaluation, it may be concluded that the principal weakness of the Indonesian copyright system does not arise from the absence of legislation specifically regulating Artificial Intelligence. Rather, the fundamental deficiency lies in the absence of objective legal standards capable of identifying and measuring meaningful human creative contribution throughout AI-assisted creative processes. The resulting legal gap is therefore attributable not merely to technological development but to the inability of existing copyright doctrine to accommodate evolving forms of human creativity.

Accordingly, future reform of Indonesian copyright law should not seek to recognize Artificial Intelligence as an independent legal author. Instead, legal reform should focus upon developing objective standards capable of evaluating human creative contribution within AI-assisted creation. Such an approach preserves the fundamental human-centered philosophy of copyright while simultaneously ensuring that copyright law remains responsive to rapid technological innovation. On this basis, the following section proposes a reconstructed copyright protection model founded upon the principle of Human Creative Contribution (HCC) as the primary basis for attributing copyright ownership to AI-generated works.

Reconstructing Copyright Protection Based on Human Creative Contribution

The rapid advancement of Artificial Intelligence demonstrates that a copyright framework relying solely on the conventional concept of human authorship is no longer sufficient to accommodate the dynamics of contemporary digital creativity. Although the fundamental principle of copyright continues to recognize human beings as authors and copyright holders, technological developments indicate that creative production increasingly results from collaboration between humans and AI systems. Consequently, a more adaptive legal approach is required—one that preserves the human-centered philosophy of copyright while simultaneously accommodating emerging forms of creativity facilitated by Artificial Intelligence.

Based on a comparative analysis of Indonesia and China, this study argues that copyright protection for AI-generated works should not depend on whether Artificial Intelligence is involved in the creative process. Rather, the determining factor should be the presence of identifiable human creative contribution throughout the work's creation. Under

this approach, copyright remains vested exclusively in human beings as legal subjects, whereas Artificial Intelligence functions solely as an instrument assisting the creative process.

This perspective is equally consistent with Islamic legal principles. In *fiqh muamalah*, ownership over intellectual creations is inseparable from the concepts of lawful human effort (*kasb*), intentional action (*niyyah*), and intellectual endeavor (*ijtihād fikrī*). Consequently, AI-generated outputs cannot independently acquire proprietary status because Artificial Intelligence possesses neither legal personality (*ahliyyah*) nor legal accountability (*taklīf*). Instead, AI should be regarded as a technological means (*wasīlah*) whose utilization remains under human direction and control. Therefore, copyright protection should continue to be attributed to the individual who exercises meaningful intellectual judgment throughout the creative process. This interpretation reflects the objectives of *Maqāṣid al-Sharī'ah*, particularly *ḥifẓ al-'aql*(protection of intellect), which encourages innovation and creativity, and *ḥifẓ al-māl* (protection of property), which safeguards legitimate economic rights arising from intellectual works.

To provide greater legal certainty, this study proposes the Human Creative Contribution (HCC) Model as the principal framework for attributing copyright ownership to AI-generated works. The model is founded on the premise that copyright protection should not be granted merely because Artificial Intelligence has been used in the creative process. Rather, protection should be based upon the existence of significant human intellectual contribution that substantially influences the final form of the work.

The proposed Human Creative Contribution model consists of four principal indicators for evaluating meaningful human involvement throughout AI-assisted creative production.

Table 3. Human Creative Contribution Indicators for AI-Generated Works

Indicator	Form of Human Contribution	Relevance to Copyright Protection
Prompt Design	Formulating instructions, concepts, themes, artistic styles, and creative objectives	Demonstrates human creative initiative
System Configuration	Selecting AI models, configuring parameters, and controlling the generation process	Demonstrates intellectual control over creation
Output Selection	Evaluating and selecting the most appropriate output among multiple AI-generated alternatives	Demonstrates creative judgment and evaluation

Post-Generation Editing	Revising, modifying, refining, integrating, and improving the final output	Demonstrates independent human creative expression

Source: Developed by the Author (2026).

As illustrated in Table 3, copyright ownership should not be determined solely by identifying the entity that technically generates the output. Instead, the decisive consideration should be the extent to which human intellectual contribution shapes the final expression embodied in the work. The greater the cumulative degree of human intellectual participation across the four HCC indicators, the stronger the legal justification for attributing copyright ownership to the human creator. Conversely, where an individual merely provides a simple prompt without exercising further intellectual judgment, creative selection, or post-generation refinement, the legal basis for copyright protection becomes considerably weaker. Nevertheless, the final determination should remain subject to judicial evaluation of the overall creative process rather than the mechanical application of predetermined numerical thresholds.

While the Human Creative Contribution (HCC) model does not prescribe a rigid quantitative scoring system, copyright protection should be assessed through a holistic evaluation of the creative process rather than by the mere use of Artificial Intelligence. Courts and competent authorities should consider the cumulative significance of the four indicators—prompt design, system configuration, output selection, and post-generation editing—in determining whether meaningful human intellectual contribution exists. No single indicator should automatically determine copyright ownership; instead, each case should be evaluated according to its particular factual circumstances, allowing judicial discretion to balance the quality, originality, and extent of human creative involvement throughout the AI-assisted creation process. Such a flexible approach preserves legal certainty while avoiding overly mechanical assessments that may fail to reflect the complexity of contemporary digital creativity.

The proposed HCC model also offers practical advantages in copyright litigation involving AI-generated works. Unlike traditional approaches that focus exclusively on the final output, the Human Creative Contribution framework enables courts and competent authorities to evaluate the entire creative process leading up to the work's production. Evidence such as prompt histories, parameter configurations, system metadata, revision records, workflow documentation, and editing histories may collectively demonstrate the degree of human intellectual contribution underlying the disputed work.

Nevertheless, the practical implementation of this evidentiary framework also requires attention to the authenticity and reliability of digital evidence. Prompt histories, workflow documentation, system metadata, revision records, and editing logs should not merely be presented as supporting documents but should also demonstrate their integrity, chronological consistency, and connection to the disputed work. Accordingly, courts should evaluate both the existence of digital documentation and its evidentiary credibility

in accordance with applicable procedural rules governing electronic evidence. Such an approach enhances legal certainty while reducing the risk of fabricated or manipulated documentation in disputes concerning AI-assisted creative works.

From the standpoint of Islamic law, these forms of evidence likewise reflect the principle that legal rights arise from demonstrable human effort and intentional intellectual activity rather than from autonomous technological processes. Accordingly, documentation of prompt engineering, editing history, and creative decision-making may serve as objective indicators of *kasb* (lawful human endeavor) and intellectual creativity, thereby strengthening the legal attribution of copyright ownership to the individual who directed the AI-assisted creative process. Such an evidentiary approach reinforces both contemporary copyright principles and Islamic legal doctrine by ensuring that ownership remains inseparable from human accountability and creative intention.

Within the Indonesian legal system, the proposed Human Creative Contribution model may be implemented without altering the fundamental principle established under Law Number 28 of 2014 concerning Copyright that authors must be human beings. Instead, legislative reform may be achieved by introducing explicit provisions recognizing that meaningful human creative contribution exercised through Artificial Intelligence constitutes a legitimate form of intellectual activity capable of giving rise to copyright protection. Such reform would preserve the human-centered nature of Indonesian copyright law while enabling it to respond effectively to the realities of AI-assisted creativity.

The proposed Human Creative Contribution (HCC) model may also support the administrative implementation of copyright protection within Indonesia's existing copyright recording system administered by the Directorate General of Intellectual Property (DJKI). Although copyright protection under Law Number 28 of 2014 arises automatically upon the creation of a work, the recording of copyright serves as important prima facie evidence of ownership and facilitates future enforcement. In the context of AI-assisted works, applicants could be encouraged to provide supporting documentation demonstrating meaningful human creative contribution, including prompt development records, workflow documentation, revision history, and evidence of post-generation editing. Such documentation would not constitute additional substantive requirements for copyright protection but could assist DJKI in maintaining more comprehensive records and strengthen evidentiary certainty in the event of future copyright disputes.

Compared with proposals advocating recognition of Artificial Intelligence as an independent legal author, the Human Creative Contribution model provides a more coherent and practical solution. Granting authorship to AI would generate substantial conceptual difficulties concerning legal personality, ownership, accountability, and the exercise of exclusive rights. By contrast, emphasizing human creative contribution preserves the philosophical foundation of copyright law while remaining consistent with contemporary international developments, particularly the judicial approach adopted by the Beijing Internet Court in *LI v. LIU* (2023). Furthermore, this approach harmonizes with Islamic legal philosophy, which consistently attributes legal rights and responsibilities exclusively to human beings as morally accountable subjects.

Accordingly, the Human Creative Contribution model shifts the focus of copyright protection away from whether Artificial Intelligence can qualify as an author and toward the more legally relevant issue of identifying meaningful human intellectual contribution throughout AI-assisted creative processes. This reconstructed framework is expected to strengthen legal certainty, enhance copyright protection for digital creators, promote responsible technological innovation, and provide a more adaptive legal foundation for the future development of Indonesian copyright law in the era of Artificial Intelligence.

An important implication of the proposed Human Creative Contribution (HCC) model is the convergence of legal reasoning across different legal traditions. Although Islamic law and the Chinese copyright system originate from distinct philosophical and normative foundations, both ultimately reject recognizing Artificial Intelligence as an independent legal author and instead attribute copyright ownership to meaningful human intellectual contribution. Islamic jurisprudence reaches this conclusion through the concepts of *ahliyyah*, *taklīf*, *kasb*, and *ḥaqq al-ibtikār*, whereas the Beijing Internet Court emphasizes identifiable human intellectual contribution through prompt design, system configuration, output selection, and post-generation editing. This convergence demonstrates that the principle of human-centered authorship is not confined to a single legal tradition but rather represents a broader normative foundation that can guide future copyright reform in response to advances in Artificial Intelligence.

CONCLUSIONS

The development of Artificial Intelligence has significantly challenged the conventional paradigm of copyright law, particularly regarding the determination of authorship and copyright ownership over AI-generated works. The findings of this study demonstrate that Indonesian copyright law remains firmly grounded in the principle of human-centered authorship but has yet to provide objective legal parameters for assessing human creative contribution in AI-assisted creative processes. Consequently, legal uncertainty persists regarding copyright ownership, originality, registration, commercialization, and dispute resolution involving AI-generated works.

The comparative analysis further reveals that, although neither Indonesia nor China recognizes Artificial Intelligence as a legal author, the Chinese copyright system has adopted a more adaptive approach through judicial interpretation, particularly in the Beijing Internet Court decision in LI v. LIU (2023). Rather than focusing on the use of AI itself, Chinese judicial practice evaluates the extent of human intellectual contribution through objective indicators such as prompt engineering, parameter configuration, output selection, and post-generation editing. This approach provides greater legal certainty while maintaining the principle that copyright belongs exclusively to human creators.

From the perspective of Islamic law, intellectual property rights likewise remain inseparable from human intellectual effort, intentional action, and legal responsibility. Under the concepts of ḥaqq al-ibtikār and huqūq māliyyah, Artificial Intelligence functions merely as a technological instrument (wasīlah), whereas ownership and accountability remain vested in the human individual who exercises meaningful intellectual control over

the creative process. This perspective is consistent with the objectives of Maqāṣid al-Sharī'ah, particularly the protection of intellect (ḥifẓ al-'aql) and property (ḥifẓ al-māl), thereby reinforcing the human-centered philosophy underlying contemporary copyright law.

Based on these findings, this study proposes the Human Creative Contribution (HCC) model as a reconstructed framework for copyright protection of AI-generated works in Indonesia. The proposed model emphasizes that copyright attribution should be determined by the degree of identifiable human intellectual contribution rather than by the mere use of Artificial Intelligence. By introducing objective indicators of human creativity throughout the AI-assisted creative process, the HCC model is expected to strengthen legal certainty, support judicial consistency, protect digital creators, and facilitate future reform of Indonesian copyright law while accommodating technological innovation without departing from its fundamental human-centered principles.

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