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Rethinking Copyright Regulations In The Development And Utilization Of Generative Artificial Intelligence In Indonesia

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Abstract

The development of generative artificial intelligence (AI) raises legal issues regarding the use of copyrighted works as training data, particularly concerning licensing, exceptions, and the protection of creators. This study aims to analyze the adequacy of Indonesia's copyright regulations and to formulate a framework for regulatory reform that provides legal certainty and maintains a balance between the protection of creators and technological innovation. The study employs a normative legal method using legislative, conceptual, and comparative legal approaches through an analysis of Law No. 28 of 2014 on Copyright and European Union regulations. The results indicate that Indonesian regulations do not yet specifically address the parameters for using works as training data for generative AI, particularly regarding licensing limits, the application of exceptions, data transparency, and accountability. Therefore, this study proposes a regulatory framework that integrates parameters for the legality of work usage, licensing and exception mechanisms, proportional transparency, as well as the enforcement and redress of creators' rights. This framework is expected to serve as the basis for the development of regulations that are adaptive, proportional, and provide legal certainty for both creators and AI developers.

Keyword: *Copyright, Generative AI, Training Data, Legal Certainty, Regulatory Reconstruction*

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INTRODUCTION

Advances in *generative artificial intelligence* have transformed the process of producing text, images, music, and other forms of digital expression. The development of this technology involves training models using large-scale datasets that may include copyrighted works. This raises legal questions regarding developers' authority to use others' works without the consent of the creators or copyright holders. This issue must be distinguished from the copyright status of AI outputs because the use of works as

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training data concerns the protection of existing creations, whereas AI outputs relate to authorship, originality, and ownership of rights (Qurrahman et al., 2024). Copyright protection is primarily regulated by Law No. 28 of 2014 on Copyright. This law governs moral rights, economic rights, and limitations on copyright for specific purposes. However, its application to generative AI training still requires interpretation regarding the acts of collecting, reproducing, storing, and processing digital works. The absence of specific regulations regarding AI training does not automatically mean that all uses of works are illegal or exempt from the obligation to obtain permission. The main issue is the lack of clear normative parameters for determining the legality of work usage, the application of copyright limitations, and the protection of creators' interests (Apriyani et al., 2026; Bukhori et al., 2026).

These issues encompass the potential use of works that intersect with both the economic and moral rights of creators. (Grez, 2026) examines the relationship between AI algorithm training, the reproduction of musical works, and the protection of moral rights. Meanwhile, (Gemilang et al., 2025; Komang et al., 2025) examines the use of copyrighted works as AI training data in Indonesia and proposes collective licensing, *opt-out* mechanisms, and dataset transparency. These studies indicate that the issue of AI training has already begun to be examined; therefore, the novelty of this research cannot be based solely on the absence of specific regulations or the repetition of existing protection proposals. Further analysis is needed to formulate legal parameters that can distinguish between uses requiring permission, uses justified under copyright exceptions, and uses that potentially infringe on creators' rights. By way of comparison, the European Union regulates the use of works for *text and data mining* through Directive (EU) 2019/790, which distinguishes exceptions for research organizations and cultural heritage preservation institutions from more general exceptions with specific provisions regarding the reservation of rights. Additionally, Regulation (EU) 2024/1689 requires providers of general-purpose AI models to implement compliance policies with EU copyright law and to provide a summary of the content used for training. These regulations can serve as a basis for evaluating the formulation of licensing mechanisms, rights restrictions, and transparency measures that align with the Indonesian legal system, without directly adopting them (European Parliament & Council of the European Union, 2019, 2024).

This study aims to analyze the adequacy of Indonesia's copyright regulations regarding the use of works as training data for generative AI and to formulate a direction for regulatory reform. The analysis focuses on the application of economic rights and moral rights, the interpretation of acts of use of works, and the relationship between exclusive rights and copyright limitations. Through a comparison with European Union regulations, this study seeks to formulate normative parameters regarding the legality of work usage, licensing mechanisms or exceptions, and training data transparency. The results are expected to strengthen legal certainty for creators while providing clear usage boundaries for generative AI developers.

METHODS

This study employs a normative legal research method with a qualitative approach, utilizing *the statutory approach*, *the conceptual approach*, and the *comparative* law *approach*. This method was chosen to analyze the adequacy of Indonesian legal norms regarding the use of copyrighted works as training data for generative artificial intelligence and to formulate directions for regulatory reform. The statutory approach was used to examine provisions regarding economic rights, moral rights, reproduction, and limitations on copyright. The conceptual approach was used

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to examine exclusive rights, licensing, and the balance of interests between creators and technological development, while the comparative law approach was used to evaluate the European Union's regulations as a basis for formulating alternative regulations compatible with the Indonesian legal system. The legal materials consist of primary and secondary sources. Primary legal sources include Law No. 28 of 2014 on Copyright, Directive (EU) 2019/790, and Regulation (EU) 2024/1689. Secondary legal materials include scientific journal articles, legal books, and academic publications relevant to artificial intelligence training, copyright limitations, and creator protection. Materials were selected purposefully based on the authority of the source, the current status of the regulations, the credibility of the publications, and their relevance to the research problem. Materials were collected through a literature review and document searches in official sources of legislation as well as scientific publication databases. Research instruments included an inventory sheet and a legal materials analysis matrix that categorized provisions based on the form of work use, rights potentially affected, the basis for licensing or exceptions, and mechanisms for transparency and creator protection. The accuracy of the materials was checked through verification against official sources and cross-checking with relevant academic literature. This study did not use a population, sample, or human participants because it did not involve the collection of empirical data.

The analysis of legal materials was conducted qualitatively through an inventory and classification of the materials, as well as grammatical, systematic, and teleological interpretations of the relevant provisions, and an analysis of the relationships between legal norms. Legal comparisons were made based on the scope of use of the works, requirements for exceptions, reservation of rights, and transparency of training data. The results of the analysis are used to assess the adequacy and clarity of Indonesian legal norms and to identify legal uncertainties and the need for regulatory updates. Subsequently, alternative reconstructions are evaluated based on legal certainty, the protection of creators' economic and moral rights, the proportionality of transparency, and their compatibility with the national legal system. This process serves as the basis for formulating prescriptive recommendations regarding the use of works requiring authorization, uses justified under copyright exceptions, and the need for training data transparency to provide protection for creators while ensuring legal certainty for developers of generative artificial intelligence.

FINDINGS AND DISCUSSION

1. The Adequacy of Indonesian Copyright Law in Regulating the Use of Works as Training Data for Generative AI

The use of copyrighted works as training data for generative artificial intelligence (AI) raises legal issues because the process may involve the collection, digital reproduction, storage, and processing of such works. In Indonesia, Law No. 28 of 2014 on Copyright (the Copyright Law) regulates the protection of creators' economic and moral rights. However, this law does not specifically address the use of copyrighted works as training data for generative AI. The issue is not the absence of legal protection as a whole, but rather the lack of clarity regarding the parameters for applying existing norms to AI training practices. From the perspective of economic rights, Articles 8 and 9 of the Copyright Act govern the exclusive rights of creators or copyright holders, including the right of reproduction and the obligation to obtain permission for the exercise of economic rights. These provisions are relevant when AI training involves acts of reproduction or use of works that fall within the scope of

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exclusive rights. However, the assessment of infringement must still take into account the specific actions taken, the protection status of the work, the basis for use, and the possibility of valid authorization or exceptions. Thus, the use of works in AI training does not automatically constitute an infringement, but the goal of technological development does not automatically justify unauthorized use.

The protection of moral rights must also be considered. Article 5 of the Copyright Law protects the rights inherent to the creator, including the right to be named and protection against certain acts that harm the creator's honor or reputation. In AI training, issues of attribution and the use of works without the creator's information must be assessed based on specific actions and their impact on the protected rights. Therefore, the use of a work as training data does not in and of itself constitute a violation of moral rights; an assessment based on relevant provisions is required. Article 44(1) of the Copyright Law provides an exception for the use of works for specific purposes, including research, provided that the source is fully cited and the legitimate interests of the creator or copyright holder are not harmed. This provision can be considered when assessing the use of works for AI training, but it cannot be applied automatically. The purpose of the use and fulfillment of all requirements must be examined on a case-by-case basis. Commercial AI training activities, for example, do not automatically qualify for the exception simply because they involve research or technology testing.

Table 1. Comparison of Indonesian Copyright Standards

Legal Basis	Relevance to AI Training	Limitations
Articles 8–9 of Law No. 28 of 2014	Protection of economic rights and reproduction of works	Does not specifically regulate the use of works for AI training
Article 5 of Law No. 28 of 2014	Protection of the creator's moral rights	Does not yet specifically address the issue of attribution in AI training
Article 44(1) of Law No. 28 of 2014	Exceptions for specific purposes, including research	Its application to AI training requires a test based on purpose and legal requirements

Source: Compiled by the author based on Law No. 28 of 2014 on Copyright.

The analysis shows that the Copyright Act provides a framework for assessing the use of works in AI training, but does not yet offer specific guidelines on when permission is required, how exceptions apply, and how creators' interests are protected in large-scale data use highlights the regulatory ambiguity regarding the use of works as training data for AI models, while (Cahya et al., 2024; Sukardi, 2025) discusses the issue of the reproduction of musical works and its implications for creators' economic and moral rights. These studies demonstrate the need for clarity in the application of copyright norms to AI training practices. Indonesia's copyright regulations can be considered insufficient to specifically address the issues surrounding generative AI training. These limitations stem from the absence of specific parameters linking the form of work usage, licensing obligations, the application of exceptions, and creator protection. This serves as the basis for formulating parameters regarding the legality of work usage and the direction for regulatory reform that provides legal certainty for creators and AI developers.

2. Legal Parameters Governing the Use of Works: The Relationship Between Exclusive Rights, Exceptions, and Protection of Creators

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Determining the legality of using copyrighted works as training data for generative AI requires consideration of the relationship between the creator's exclusive rights, the basis for using the work, and the possibility of applying exceptions. Article 9, paragraphs (1) and (2), of Law No. 28 of 2014 on Copyright establishes economic rights regarding the reproduction of works, as well as the obligation to obtain permission to exercise those economic rights. In the context of AI training, these provisions are relevant when the data collection and processing involve acts falling within the scope of exclusive rights. (Anovanko et al., 2025; Khasri, 2025) For example, this study examines the digital reproduction and storage of musical works in AI algorithm training and its implications for creators' rights. Nevertheless, determining an infringement still requires an examination of the specific actions and the legal basis for their use, rather than relying solely on the fact that a work has become training data. To systematically apply these standards, the legality of a work's use can be assessed through four parameters: the status of and access to the work, the form of use, the basis for authorization or exceptions, and the protection of copyright. First, access to a work must be distinguished from the authority to use it. Works that are openly accessible on the internet are not automatically free to use for AI training. Second, it must be examined whether the training process involves reproduction or other acts protected by economic rights. Third, the use must have a valid basis, whether in the form of permission or an exception that meets the provisions of the law. Fourth, such use must be assessed based on the protection of moral rights and the reasonable interests of the creator. These parameters constitute a normative analytical framework developed based on the Copyright Law; they are not a new legal category explicitly established by law.

Table 2. Parameters for Assessing the Legality of the Use of a Work

Parameter	Test Focus
Status and Access	Protection status and basis for access to the work
Form of Use	Whether or not the act falls within the scope of exclusive rights
Permission or Exceptions	Existence of a license or fulfillment of the conditions for an exception
Protection of the creator	Respect for moral rights and legally protected interests

Source: The author's analysis based on Law No. 28 of 2014 on Copyright.

The application of these parameters must take into account Article 44(1) of the Copyright Law, which permits the use, extraction, reproduction, or modification of a work for specific purposes, including research, provided that the source is fully cited and that the legitimate interests of the creator or copyright holder are not prejudiced (Republic of Indonesia, 2014, Article 44(1)). However, AI training cannot automatically be included under this exception simply because it relates to research or technological development. The purpose and nature of the use, as well as compliance with the provisions of the article, must be assessed on a case-by-case basis. This view aligns with the issues discussed at , namely the lack of clarity regarding the legal parameters for the use of copyrighted works as training data for AI models in Indonesia.

In addition to licenses and exceptions, transparency regarding training data and *opt-out* mechanisms are also relevant in formulating protections for creators. (Gemilang et al., 2025; Hadi & Guntara, 2022; Octavia et al., 2026) proposes a collective licensing model accompanied by a national *opt-out* mechanism and dataset transparency requirements. These proposals can serve as a basis for regulatory reform but should not be treated as general obligations that are currently in effect under the

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Copyright Law. Transparency serves to support the traceability of work usage, while *the opt-out* provides a mechanism to raise objections if recognized within the applicable legal framework. Neither of these, on its own, replaces the obligation to obtain permission when such permission is required by law. The legality of using works in AI training must be determined through a test that links the act of use, exclusive rights, the basis for permission or exceptions, and creator protection. This framework avoids two overly broad conclusions: that all uses of works for AI training necessarily infringe copyright, or that all uses for technology development are justified. Clarity on these parameters is necessary as a foundation for formulating regulations that provide legal certainty while maintaining a balance between creator protection and the development of generative AI.

3. A Comparison of European Union Law and Its Relevance to Indonesian Regulation

The European Union provides a relevant legal framework for evaluating the use of copyrighted works as training data for generative artificial intelligence (AI). The framework is based on two main instruments: *Directive (EU) 2019/790* on copyright in the Digital Single Market and *Regulation (EU) 2024/1689*, also known as *the Artificial Intelligence Act*. Directive 2019/790 establishes an exception for *text and data mining* (TDM), while the AI Act sets forth copyright compliance and transparency obligations for providers of general-purpose AI models (European Parliament & Council of the European Union, 2019, Arts. 3–4; 2024, Art. 53). Article 3 of Directive 2019/790 provides an exception for the reproduction and extraction of works lawfully accessed by research organizations and cultural heritage preservation institutions for the purposes of scientific research. In contrast, Article 4 provides a more general TDM exception for lawfully accessed works, provided that the rights holder has not expressly reserved their rights through appropriate means, including machine-readable formats for content available online (European Parliament & Council of the European Union, 2019, Arts. 3–4). This distinction is important because the European Union does not grant unlimited freedom of use but rather establishes exceptions based on purpose, the entity carrying out the activity, lawful access, and the possibility of reserving rights. This model provides more structured parameters for distinguishing between uses that qualify for an exception and those that still require another legal basis.

In addition to regulating TDM, Article 53(1)(c) of the AI Act requires providers of general-purpose AI models to implement policies ensuring compliance with EU copyright law, including respecting the reservation of rights under Article 4(3) of Directive 2019/790. Article 53(1)(d) also requires such providers to publish a sufficiently detailed summary of the content used to train the model (European Parliament & Council of the European Union, 2024, Art. 53(1)(c)–(d)). According to Recitals 107–108, this summary is intended to help interested parties, including copyright holders, trace and enforce their rights, while taking into account the protection of trade secrets and confidential business information. However, this transparency obligation does not constitute a case-by-case review of the legality of each work and does not in itself prove that all training data was used lawfully.

Table 3. Comparison of Regulations Governing the Use of Works for AI Training

Aspect	European Union	Indonesia
TDM Exemption	Specifically regulated in Directive 2019/790, Articles 3–4	Not specifically regulated in the Copyright Law

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Reservation of Rights	Regulated in Article 4(3) of Directive 2019/790	No equivalent specific mechanism yet exists in the Copyright Act
Training transparency	Regulated under Article 53(1)(d) of the AI Act	There is no equivalent specific obligation in the Copyright Act
Copyright compliance	Article 53(1)(c) of the AI Act establishes compliance policies for providers of general-purpose AI models	Assessments still rely on relevant general copyright norms

Source: Compiled by the author based on Directive (EU) 2019/790, Regulation (EU) 2024/1689, and Law No. 28 of 2014 on Copyright.

This comparison shows that the main issue with Indonesia's regulations lies in the lack of integration of parameters regarding the use of works, the reservation of rights, and the transparency of training data within a specific framework. The Copyright Law provides protection for economic rights, moral rights, and exceptions for specific purposes, but does not yet explicitly regulate text-to-image (TDM) for generative AI training (Atsar & Sutrisno, 2022; Ikawati et al., 2024). This situation aligns with the discussion (Grez, 2026) regarding the regulatory ambiguity surrounding the use of works as training data for AI models. (Fauzian & Nur, 2025) also proposes mechanisms for collective licensing, *opt-out*, and transparency as part of work protection. Thus, the need for regulation is not only related to affirming creators' rights but also to establishing mechanisms that ensure these rights are recognized, respected, and enforced. The European Union model cannot be adopted directly without adaptation. The TDM exception and the reservation of rights must be designed with consideration for Indonesia's legal framework and the balance between creators' protection and the need for technological development. Transparency must also be proportionate so as to provide useful information to rights holders without requiring the disclosure of trade secrets or unnecessary technical information. In this context, the relevance of the AI Act lies in the relationship between transparency obligations and copyright compliance, not in the assumption that transparency can replace authorization or resolve all copyright disputes. The restructuring of Indonesia's regulations must consider three key elements: clear parameters for determining when the use of a work requires authorization or qualifies for an exception; mechanisms for reserving rights or filing objections that are legally grounded and enforceable; and proportional transparency obligations regarding training data. These three elements must be complemented by rights enforcement and dispute resolution mechanisms so that protection does not stop at formal obligations. Thus, the lesson from the European Union is not to copy all of its provisions, but rather to adapt the principles of legal certainty, traceability of use, and accountability into the Indonesian legal system.

4. Regulatory Reconstruction: A Parameter Model for the Use and Accountability of Generative AI Training

The reform of copyright regulations governing the use of works as training data for generative AI should focus on establishing clearer legal parameters, without neglecting the protection of creators or the needs of technological development. As discussed in the previous section, Law No. 28 of 2014 on Copyright has regulated economic rights, moral rights, and exceptions for certain uses, but has not specifically regulated *text and data mining* (TDM) activities for generative AI training (Periani et al., 2025). Therefore, reform should not begin by overhauling the entire existing legal framework, but rather by clarifying the application of existing norms and adding

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specific provisions that address the issue of using works in the AI training process. First, regulations need to establish parameters for the legality of using works that distinguish between use based on permission, use that falls under exceptions, and use that potentially infringes copyright. These parameters must take into account the work's protection status, the basis for access, the nature of the actions taken regarding the work, the purpose of use, and compliance with relevant legal requirements. This approach is crucial because access to works available on the internet does not automatically grant the right to use them as training data. Highlights the regulatory ambiguity regarding the use of copyrighted works for AI model training in Indonesia. Thus, more explicit regulations are needed so that determining legality does not rely solely on general interpretations of reproduction rights or the purpose of use.

Second, it is necessary to formulate licensing mechanisms and exceptions that are appropriate for the characteristics of AI training. Licensing can be carried out directly through rights holders or through collective licensing mechanisms, depending on the type of work and the interests of the parties involved. Meanwhile, exceptions need to be formulated in a measured manner by defining the objectives, scope, conditions of use, and protection of the creators' legitimate interests. Propose a collective licensing model and an *opt-out* mechanism as part of the protection for works used in AI training. These proposals can serve as a basis for policy formulation, but their implementation requires determining the authorized party to grant licenses, the scope of works represented, royalty management, and mechanisms for filing objections. The *opt-out* mechanism also needs a clear legal basis so that the reservation of rights can be recognized and respected by AI training providers. Third, regulations must address the transparency of training data in a proportionate manner. AI model providers or developers subject to these obligations must provide adequate information regarding the sources or categories of data used so that creators and rights holders can trace the potential use of their works. This approach is comparable to Article 53(1)(c) and (d) of *Regulation (EU) 2024/1689*, which governs copyright compliance policies and the publication of training content summaries for providers of general-purpose AI models (European Parliament & Council of the European Union, 2024). However, transparency must be distinguished from legality: disclosure of information does not replace legally required authorization and does not automatically prove a violation. The regulations must also take into account trade secrets, confidential business information, and a compliance burden that is proportionate to the provider's scale. Fourth, these measures must be accompanied by oversight, complaint, and dispute resolution mechanisms accessible to both creators and rights holders. Licensing and transparency obligations will be less effective if affected parties lack clear avenues to request information, file objections, or seek legal remedies. Therefore, regulations must clarify the responsibilities of those who use the works, the procedures for handling complaints, and the forms of remedies that can be applied based on proven violations. The formulation of these mechanisms must remain consistent with Indonesia's legal enforcement system and should not treat every use of a work in AI training as a proven violation.

Table 4. Proposed Revision of Regulations Governing the Use of Works for AI Training

Regulatory Elements	Regulatory Direction
Legality Parameters	Clarify the scope of permissions, exceptions, and potentially infringing uses
Licensing and Reservation of Rights	Regulating licenses, collective licenses, and objection or *opt-out* mechanisms
Transparency	Establishing adequate and proportionate training data

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	information
Accountability and redress	Providing complaint mechanisms, oversight, dispute resolution, and remedies

Source: The author's analysis based on Law No. 28 of 2014 on Copyright, Directive (EU) 2019/790, Regulation (EU) 2024/1689, as well as Rachman and Meliala (2025) and Rahayu and Ariyanti (2026).

The model is not intended to directly adopt all EU regulations. Articles 3 and 4 of Directive 2019/790 can serve as a reference in designing TDM exceptions and the reservation of rights, while Article 53 of the AI Act provides a benchmark for copyright compliance obligations and training data transparency (European Parliament & Council of the European Union, 2019, Arts. 3–4; 2024, Art. 53). Adaptation to the Indonesian context must still take into account the national legal framework, oversight capacity, creators' interests, and innovation needs. Thus, the goal of this framework is not to impose a blanket ban on AI training, but rather to establish a legally accountable governance framework for the use of works. The contribution of this research lies in the development of a normative framework that integrates these four elements into a single model: determination of legality, licensing and exceptions, transparency, and accountability and rights restoration. This framework is a synthesis of an analysis of the Copyright Law, prior studies, and a comparison with European Union law; it does not claim that previous research has never proposed collective licensing, *opt-out provisions*, or transparency. Through this approach, regulatory reconstruction is expected to strengthen legal certainty for creators while providing clearer boundaries for the use of works by generative AI developers.

CONCLUTION

This study concludes that Indonesia's copyright regulations are not yet sufficiently specific to govern the use of works as training data for generative AI, particularly with regard to licensing, exceptions, transparency, and accountability. The novelty of this study lies in the formulation of a regulatory reconstruction framework that integrates parameters of legality, licensing and exemption mechanisms, training data transparency, as well as the protection and restoration of creators' rights, while critically referencing European Union regulations. Although it offers a normative framework that links legal certainty and creator protection with the needs of AI development, this study is limited to normative legal analysis and has not yet empirically tested its application. Therefore, future research needs to evaluate the feasibility of this model—particularly collective licensing mechanisms, the reservation of rights, and transparency—as a basis for developing adaptive and proportionate regulations.

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