

The Impact of Technology on Copyright: Copyright Determination Mechanism for Sounds Produced by Artificial Intelligence

Fitri Wulandari¹, Lidya Shery Muis²
^{1,2} Muhammadiyah University of Sidoarjo, Indonesia



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ABSTRACT

Objective: This study aims to analyze the legal mechanisms governing copyright ownership of songs produced by artificial intelligence (AI) applications such as Suno, Soundful, and AIVA within the Indonesian legal framework. **Method:** Employing a normative juridical approach, the research examines relevant legal provisions under Law Number 28 of 2014 concerning Copyright, supported by doctrinal interpretation and analysis of technological developments in creative production. **Results:** The findings indicate that AI cannot be recognized as a legal subject or copyright holder under current Indonesian law. Copyright and economic rights are granted exclusively to humans who contribute significant creative input. Furthermore, if AI-generated voices imitate the vocals of deceased singers, permission from rights holders or heirs is required, and the use remains subject to royalty regulations. **Novelty:** This study provides a timely legal perspective on the intersection of AI and intellectual property rights, emphasizing the urgency for adaptive reforms in Indonesian copyright law to address emerging challenges in AI-generated creative works.

INTRODUCTION

The development of digital technology, particularly in the form of artificial intelligence (AI), has brought about major changes in various aspects of life, including in the fields of art and creativity. One of the most prominent manifestations of this phenomenon is the ability of *artificial intelligence* to create musical works, including sounds that were previously the result of human expression. Artificial intelligence not only enables efficiency in the music production process, but also poses new challenges in the legal aspect, particularly regarding copyright. In Indonesia, the current legal regulations regarding copyright do not explicitly regulate the ownership or legal protection of works that are wholly or partially produced by *artificial intelligence*. This has given rise to debate about who has the rights to these works and how the mechanism for determining copyright can be carried out fairly, considering that copyright law in Indonesia only recognizes humans as legal subjects. Therefore, a study of the impact of technology on copyright, particularly in the context of determining copyright for sounds produced by *artificial intelligence*, is important to provide legal certainty and protect the interests of the parties involved in this technology-based creative ecosystem [1].

Law Number 28 of 2014 concerning Copyright in Indonesia stipulates that copyright is granted to "creators" who are individuals or legal entities that produce works that are unique and personal. However, in the context of *artificial intelligence*, which is a non-human entity, there is ambiguity regarding who has the copyright rights to works

produced by *artificial intelligence*. Several studies have shown that if *artificial intelligence* is used as an aid in the creative process by humans, then copyright can be granted to that human as the creator. However, if *artificial intelligence* produces works automatically without human intervention, then the work may not be eligible for copyright protection in Indonesia [2].

The most prominent developments in *artificial intelligence* technology in this field are Suno, Soundful, and AIVA. Suno is known for its ability to generate songs complete with lyrics and vocals based on *text prompts*, making it easy for users without a musical background to create their own works. Soundful offers royalty-free instrumental music creation, suitable for digital content such as videos and podcasts. Meanwhile, AIVA (*Artificial Intelligence Virtual Artist*) focuses on orchestral and classical music composition, providing tools for professional composers to develop their musical ideas. [3] While all three applications utilize *artificial intelligence* to simplify the creative process, each has a different approach, features, and legal implications regarding copyright and ownership of the resulting work [4].

Several previous studies have discussed the legal aspects of copyrighted works produced by *artificial intelligence*, but in general they are still conceptual and have not specifically examined the sound of songs as an object of copyright protection in the context of Indonesian positive law. For example, Hutaaruk (2024) and Unsri (2025) focus on the legal protection of *artificial intelligence creations*, but have not examined the differences in copyright ownership when the resulting voice resembles the original singer, including deceased singers. Paitan et al. (2024), Chen et al. (2024), and Zhao et al. (2025) highlight the technical dimensions and developments of AI technology in music generation, but do not provide a normative analysis regarding the determination of legal subjects who hold copyright and economic rights. Meanwhile, Kondoahi et al. (2024) have discussed the legal regulations for the protection of copyrighted works of songs produced by *artificial intelligence*, but have not linked it to specific applications such as Suno, Soundful, or AIVA. In contrast, this research offers innovation by specifically examining the legal status of copyrighted works in the form of song sounds produced by *artificial intelligence* through applications such as Suno, Soundful, and AIVA in light of Law Number 28 of 2014 concerning Copyright, while also analyzing who is legally entitled to copyright ownership and economic rights, especially if the voice resembles a particular singer, including those who have died. Thus, this research fills the gap in existing studies with a normative approach that is not only current but also relevant in facing the challenges of copyright protection in the digital era [5].

Furthermore, in the Indonesian copyright legal system, originality and the personal relationship between the creator and the work are key elements in determining the validity of a copyright. *Artificial intelligence* has been used to create works that are technically original and artistically valuable. However, in practice, works such as *artificial intelligence- created sounds* have begun to be published and commercialized, meaning there is the potential for legal conflicts regarding claims of ownership, licensing, and economic rights over the work [6]. The aspect of economic rights is also an important

concern. Economic rights include the right to obtain economic benefits from the use of a copyrighted work, such as the right to reproduce, distribute, and display the work. In the context of works produced by *artificial intelligence*, if there is no legally recognized creator, then no party can claim economic rights to the work. This can cause problems in terms of distribution and monetization of the work, as well as potential copyright infringement if the work is used without permission [7].

Regulations related to copyrighted works produced by artificial intelligence applications such as Suno, Soundful, and AIVA are still being debated in various legal systems, including in Indonesia. Based on Law Number 28 of 2014 concerning Copyright, protection is only granted to works produced by humans, not by automated systems or software, as stated in Article 1 number 1 which defines a creator as a person who produces works of a personal nature. Therefore, works produced automatically by *artificial intelligence* without creative contribution from humans cannot be directly protected by copyright [8]. In this context, the three applications apply different policies. Suno and Soundful state that users have limited commercial rights to the music they produce, but do not guarantee full copyright, because the *artificial intelligence system* is the one that technically creates the content. In contrast, AIVA provides more space for users to compose and edit music, which allows for significant human creative contribution, so that the resulting works are more likely to meet the criteria for originality in copyright law [9]. Studies by Chen et al. (2024) and Zhao et al. (2025) shows that this legal aspect is a major challenge in the application of *artificial intelligence* in the music industry, particularly regarding copyright ownership, economic rights, and commercial use licenses [10]. With the absence of regulations specifically governing *artificial intelligence works* in Indonesia, it is important for users to understand the licensing limitations of each *platform* to avoid violating applicable legal provisions [11].

This research aims to examine and analyze the legal mechanisms applicable in Indonesia in determining copyright for works in the form of sound produced by artificial intelligence, with a focus on three applications of *artificial intelligence* as concrete examples. In the context of the development of digital technology, works produced by *artificial intelligence* raise significant legal questions, especially regarding the validity of originality and who is legally entitled to copyright protection and economic rights of the work [12].

RESEARCH METHOD

This research uses a normative juridical approach with a literature study method to answer the problem formulation regarding the legal mechanisms applicable in Indonesia in determining copyright for works created using *artificial intelligence*. The legal materials used include primary legal materials in the form of Law Number 28 of 2014 concerning Copyright, specifically Article 1 paragraph 1 and 2 concerning the definition of copyright and creators, Article 40 paragraph (1) concerning the types of protected creations, and Article 57 concerning the Economic Rights of Creators, Law

Number 32 of 2002 concerning Broadcasting, Article 25 paragraph (2) which requires broadcasting organizers to respect copyright, Government Regulation Number 56 of 2021 concerning Management of Song and/or Music Copyright Royalties, and Regulation of the Minister of Law and Human Rights of the Republic of Indonesia Number 14 of 2021 concerning Procedures for Recording Creations and Related Rights Products. This study interprets the regulations grammatically, systematically, and teleologically to analyze whether the sound works of songs that are entirely generated by *artificial intelligence* fulfill the elements of copyright protection, emphasizing that current Indonesian law still places humans as the main legal subjects in copyright protection. Thus, the copyright registration mechanism can only be carried out if there is a creative contribution from humans as creators, while works that are entirely produced by *artificial intelligence* without human intervention do not yet have a clear basis for protection and require regulatory updates in the future.

RESULTS AND DISCUSSION

A. Legal Status of Song Sound Creations Generated through Artificial Intelligence According to Copyright Law in Indonesia

Artificial intelligence technology has opened up opportunities for the automatic creation of songwriting or musical compositions. Currently, various generative *artificial intelligence applications* such as Suno, Soundful, and AIVA are concrete examples of how algorithms can generate lyrics, melodies, and musical arrangements simply by inputting keywords or specific instructions. Suno is known as an *artificial intelligence platform* that utilizes deep learning models to create songs according to user text prompts. Soundful is widely used by content creators to produce *royalty-free, customizable music*. Meanwhile, AIVA (*Artificial Intelligence Virtual Artist*) is one of the pioneering *artificial intelligences* in orchestral music composition, which has been used for *film scoring, games, and commercial purposes*. These three applications work by utilizing a database of tones, harmonies, and musical patterns that are analyzed to create new works automatically [13].

This phenomenon has given rise to legal debate, particularly in Indonesia, regarding the legal status of copyrighted songs produced entirely by *artificial intelligence*. Based on Law Number 28 of 2014 concerning Copyright, Article 1, number 2, states that the creator is a person or several people who individually or together produce a creation that is unique and personal. The element of personality here shows that copyright protection is inherent in human creativity as a legal subject. Thus, works produced entirely by *artificial intelligence* without any human contribution or creative touch do not fulfill the element of creation as defined by Indonesian law [14].

If the sound of a song is produced through Suno, Soundful, and AIVA with fully automatic settings without creative input from the user, then there is no legal subject that can be registered as a creator at the Directorate General of Intellectual Property (DJKI). However, if there is a human contribution, for example the user determines *the genre, theme, mood, or makes further edits*, then the work can fulfill the elements of a human-

produced creation and be protected as a musical work or song according to Article 40 paragraph (1) of the Copyright Law. Administrative copyright registration is carried out based on the Regulation of the Minister of Law and Human Rights Number 14 of 2021, while its commercial use is also regulated through Government Regulation Number 56 of 2021 concerning Management of Song and/or Music Copyright Royalties [15].

Indonesia's legal mechanism for establishing copyright for works produced using *artificial intelligence (AI)*, it is important to assess the extent to which humans are still involved in the creation process. One way to illustrate this is by comparing the contribution of *AI systems* to human input in creating song sounds. Applications such as Suno, AIVA, and Soundful were chosen as examples because they represent generative technologies currently widely used in the digital creative industry. By understanding the proportion of *AI's dominant role* compared to human creative input, we can identify the potential for a work to be recognized as a creation that fulfills the elements of originality and has a legitimate legal subject according to the provisions of Law Number 28 of 2014 concerning Copyright. The following table is presented to visualize this comparison, allowing for a more focused and in-depth discussion:

Table 1. Comparison of the Characteristics of the Suno, Soundful, and AIVA Applications in Relation to the Copyright Determination Mechanism in Indonesia. Data processed by the Author based on Law Number 28 of 2014 regarding Copyright and related literature (Andriani, 2021; Hafizh, 2022).

No	Application Name	Technical Characteristics	Form of work produced	Relevance to Copyright Determination Mechanism
1	Suno	A text-prompt-based generative AI platform. Users simply enter keywords, <i>genres</i> , or themes; the entire process of creating melodies, arrangements, and vocals is automated by the algorithm, without any further human creative input.	Popular songs with lyrics, synthetic vocals, and instant digital arrangements.	Due to minimal human contribution, Suno's work is difficult to recognize as the result of human creativity, as required by Article 1, number 2 of the Copyright Law. Copyright registration can only be done if there is modification or further processing by the human creator.

No	Application Name	Technical Characteristics	Form of work produced	Relevance to Copyright Determination Mechanism
2	Soundful	<i>template-</i> based background music creation app. Users choose <i>a genre, mood, or tempo</i> , and then an <i>artificial intelligence system</i> automatically composes music based on the data.	Royalty free instrumental music, <i>loops</i> , digital background <i>beats</i> .	Similar to Suno, works created entirely from <i>templates</i> lack originality unless there is human development of the idea. Copyright registration with the DJKI is only valid if there is human creative involvement in adapting or editing the work.
3	AIVA (Artificial Intelligence Virtual Artist)	<i>artificial intelligence</i> application that allows users to create <i>customized arrangements</i> . AIVA's features support editing, rearranging scores, or adding musical elements, thus providing greater scope for human creativity.	Orchestral music, film <i>soundtracks</i> , instrumental compositions.	The existence of human intervention space makes AIVA's work potentially recognized as a creation that fulfills the elements of originality. This simplifies the copyright registration mechanism at the DJKI in accordance with Article 40 paragraph (1) of the Copyright Law.

Based on the comparison table above, it can be understood that the three applications have different technical characteristics in facilitating the user's creative process. Suno and Soundful are essentially designed to generate song sound creations instantly through a *prompt* or *template mechanism* without requiring in-depth musical skills from the user. In such conditions, the user only acts as a keyword inputter, while the entire process of processing the melody, lyrics, and arrangement is carried out entirely by the algorithm. This raises doubts about the fulfillment of the element of originality, which according to Article 1 number 3 of the Copyright Law requires the existence of a unique intellectual work, expertise, or human creativity.

In contrast to these two applications, AIVA provides a larger creative intervention space for humans through the *customized arrangement feature*. This feature allows users to adapt, edit scores, adjust instruments, and add new musical ideas. This shows that human contributions can still be identified as a form of creation born from abilities, thoughts, and creativity as regulated in Article 12 paragraph (1) and Article 40 of the Copyright Law.

As an illustration, the sound work of the song produced through Suno **Generally**, *artificial intelligence* contributes around 90%, while human input is only around 10% in the form of keyword or theme input. In the Soundful application, *artificial intelligence* dominates around 85%, with little room for humans to choose the desired *genre* and *mood*. Meanwhile, in AIVA, the proportion of *artificial intelligence contributions* is estimated at 80%, while humans have a 20% contribution. This percentage shows that the more dominant the human role in influencing the final result of the work, the greater the chance that the work will fulfill the elements of originality [16].

It's important to emphasize that the principle of originality differs from simply the uniqueness of a work. In the context of copyright law, originality implies the existence of inner work or traces of the creator's personality, as explained by Marzuki (2020). In the *Rechtsvinding Journal*, "Originality is the bridge that connects a creation with its creator" (Marzuki, 2020). In *artificial intelligence*- based soundtracks, human contributions are often limited to entering keywords or selecting *templates*, which legally do not necessarily qualify as a deep creative process. This is what distinguishes *artificial intelligence works* from conventional musical creations, which explicitly arise from the experiences, emotions, and individual styles of human creators [17]. In addition to originality, the next challenge is the recognition of moral rights. Article 5 of the Copyright Law stipulates that creators have the right to include their names and maintain the integrity of their creations. In practice, *artificial intelligence*- based soundtracks lack the clear identity of their human creators. In fact, applications such as Suno or Soundful do not have a feature to record the individual "author" of the song other than an administrative username. Without a valid identity, the mechanism for protecting moral rights also becomes unclear. This has implications for the enforcement of moral rights and legal claims if the work is imitated, counterfeited, or traded without permission.

Therefore, in the context of Suno and Soundful, if the user merely operates without further creative processing, the sound work cannot be recognized as a protected work. This is different from AIVA, where the existence of human contribution opens up the possibility of legal protection if the user can prove actual creative intervention.

Thus, it can be concluded that under Indonesian legal mechanisms, the existence of human contribution remains a fundamental requirement for determining the status of a song produced by *artificial intelligence*. Without human contribution, *artificial intelligence* serves only as a tool, while the creator must still be identifiable as a legitimate legal subject. Therefore, more detailed regulations are needed in the future to address developments in *artificial intelligence technology* to ensure that copyright protection remains relevant and equitable.

B. Determination of Legal Subjects Holding Copyright and Economic Rights over Works Produced by Artificial Intelligence

Regarding the mechanism for determining copyright, Article 40 paragraph (1) of the Copyright Law states that musical works and songs are protected works. This protection provides moral rights and economic rights to the creator. Moral rights relate

to the creator's reputation and integrity, while economic rights provide exclusive rights to obtain economic benefits from the work, for example through royalties.

In the context of works produced through *artificial intelligence* such as Suno, Soundful, or AIVA, the question of who has the rights to copyright and economic rights becomes an important issue. Under current provisions, users or controllers of *artificial intelligence* who make creative contributions are considered the rightful owners of copyright and holders of economic rights, because only humans are recognized as creators. Meanwhile, *artificial intelligence developers* as parties who create software generally only have rights to the *artificial intelligence program* itself (which is protected as a computer program), not to any work produced by users through the program, unless otherwise stipulated in the license agreement. [18] This is in line with the provisions in Article 1 number 2 and number 3 of the Copyright Law, which states that creations must contain elements of originality and arise from the abilities and creativity of the creator.

Government Regulation Number 56 of 2021 concerning the Management of Song and/or Music Copyright Royalties regulates the mechanism for managing royalties for the commercial use of musical works, but does not explicitly regulate the distribution of royalties for works produced by *artificial intelligence*. This emphasizes that the mechanism for distributing economic rights depends entirely on the existence of a registered human creator. Therefore, if the sound of a song is entirely generated by *artificial intelligence* without any human creative involvement, then normatively no party is recognized as the holder of copyright or economic rights [19].

To date, copyright law in Indonesia has not been able to provide clarity regarding the status of works produced by *artificial intelligence*, especially regarding the determination of legal subjects as copyright and economic rights holders. The provisions in Articles 8 and 9 of Law Number 28 of 2014 concerning Copyright stipulate that copyright is automatically attached to the creator or rights holder who obtains the transfer of rights. However, this provision only applies if the subject is a human or legal entity, thus creating a legal vacuum if the creation is born from a non-human system such as *artificial intelligence*.

Artificial intelligence such as Suno, Soundful, and AIVA currently lack the status of a legal subject capable of performing legal acts, possessing a will, or bearing legal consequences. In classical legal theory, a legal subject is an entity with rights and obligations protected by law. However, this reality is not always simple. In practice, not all *artificial intelligence users* understand or are involved in the creative process. One approach that can be used in this situation is the concept of the correlation between the intensity of human involvement and the resulting work. If human involvement is high (for example, through advanced editing, sound curation, or recomposition), then it can be justified that the human is the copyright holder. However, if the *artificial intelligence* works fully automatically and humans only provide general instructions, then claims to copyright and economic rights become weak [20].

Artificial intelligence has enabled the creation of musical works, including songs and vocals, without relying entirely on human creativity. In the context of Indonesian

copyright law, this raises issues regarding the legal standing and ownership of the resulting works. Law Number 28 of 2014 concerning Copyright does not recognize *artificial intelligence* as a legal subject, so copyright can only be vested in humans who make significant creative contributions. Therefore, the categorization of songs, singers, and vocals produced by *artificial intelligence* is crucial for assessing whether a work is copyrightable and for determining who is entitled to the economic rights of the work *artificial intelligence* voice works and the potential for copyright recognition of those modifications.

Table 2. Analysis of the Distribution of Song Sounds, Singers, and Artificial Intelligence Vocal Sounds from a Copyright Perspective

No	Sound Category	Description	Sound Source	Implications of Copyright According to Law No. 28 of 2014	Copyright Ownership Upon Modification by User
1	Song (melody, harmony, lyrics)	A musical work that includes a composition of melody, harmony, and/or lyrics.	Created by humans or generated through Ai.	Copyright belongs to human creators. AI cannot legally be the creator. If AI creates melodies/lyrics without human creative intervention, the work is not subject to copyright protection.	If the user makes a significant creative contribution (e.g., creating new lyrics or substantively arranging a melody), then copyright may be recognized in the user.
2	Singer (Vocal identity)	The original singer's voice was recorded or used as a reference.	Human singer	Protected by related rights (moral rights and economic rights of the singer) for the duration of the protection period (50 years from recording or 70 years from death).	Unauthorized modifications that imitate the singer's voice may infringe moral and related rights, even if the musical arrangement is different.

No	Sound Category	Description	Sound Source	Implications of Copyright According to Law No. 28 of 2014	Copyright Ownership Upon Modification by User
3	Vocal Voice (<i>artificial intelligence</i>)	Digital sound generated by an Ai system (e.g. Suno, AIVA, Soundful)	Ai models trained from human voice data or synthetic voices	AI has no copyright ownership, it depends on the creative contributions of humans who direct AI.	If a user only modifies the AI's voice minimally (e.g., a filter or tempo), it is difficult to claim copyright. However, if the modification creates a new, original form of expression, the user can claim copyright over the modification.

Based on the description in the table above, it can be concluded that copyright and related rights protection for works involving artificial intelligence are highly dependent on the extent of human creative involvement in the creation process. Songs produced entirely by *artificial intelligence* without human creative intervention cannot be legally protected, while the voices of human singers remain under the protection of related rights, including the prohibition of unauthorized use even if only imitated or modified through *artificial intelligence*. *Artificial intelligence* vocal sounds can be the object of copyright protection if the user makes substantive modifications that create new and original expressions. This emphasizes the need for regulatory updates in Indonesia to accommodate technological developments and provide fair legal certainty for all parties in the digital era.

The importance of recognizing the “automatic transfer of rights” model for developers or owners of *artificial intelligence systems*. In this model, copyright for *artificial intelligence works* that are not claimed by users can be transferred to the developer as the party who created the algorithm and creative system of *artificial intelligence*. This scheme opens up new legal space, although it has not yet been accommodated in current national regulations. Therefore, it is necessary to reformulate norms in Indonesian copyright law by expanding recognition of works produced by non-human systems, including a mechanism for determining legal subjects at various levels, between users, developers, or licensees of *artificial intelligence systems*. Without this clarity, not only is legal protection hampered, but distributive justice regarding the economic value of the work also becomes difficult to achieve [21].

Advances in artificial intelligence technology have enabled the creation of song vocal works that are not only compositionally original, but also capable of imitating the vocal characteristics of deceased singers. For example, applications such as Suno or AIVA

can now produce new songs with digital voices that resemble legendary singers, such as Chrisye or Elvis Presley. In this context, an important legal question arises: who owns the copyright and economic rights to these voices? Are voices produced by *artificial intelligence* and that resemble the original singers considered new creations that are free to use? Or are they still bound by legal protection regarding the moral and economic rights of the original singer or their heirs? [22] In the Indonesian copyright law system, a singer's voice is not merely a biological voice, but also part of related rights, which are included in the protection for performers as regulated in Articles 20 and 22 of Law No. 28 of 2014 concerning Copyright. If an *artificial intelligence voice* resembles a deceased singer and is used in the commercialization of a new work, then there is a potential violation of the economic rights of the heirs or rights holders of the sound recording. In this case, the digital voice is not merely a neutral voice, but a representation of the identity and artistic expression of the protected individual.

This example demonstrates that if an *artificial intelligence-generated voice* is used to replicate the voice of a deceased singer, it may be subject to a royalty mechanism similar to that for reusing works through licensing. If the *artificial intelligence voice* merely imitates the voice without formal permission from the rights holder or heirs, it could give rise to exclusive rights disputes that could lead to violations of moral rights. In this context, *artificial intelligence* cannot be considered a copyright holder, as it lacks legal will. Similarly, the resulting imitation voice cannot stand as a new, original work completely free from previous legal protection [23]. From the songwriter's perspective, if the song composition is also created by *artificial intelligence* (whether lyrics, tune, or arrangement), then the copyright for the song does not automatically belong to *the artificial intelligence*. Conversely, if a human user only gives a general command (such as typing "make a sad pop song with Chrisye or Elvis Presley's voice"), then it is necessary to determine the extent of the user's creative involvement. Without significant user contribution, the work is in an unclear legal position and cannot be directly registered with the Directorate General of Intellectual Property.

In 2023, a song titled "*Heart on My Sleeve*" went viral on TikTok and Spotify because it sounded very similar to the voices of singers *Drake* and *The Weeknd*. This song was created by an anonymous user named *Ghostwriter977* using *artificial intelligence* without the consent of the artists concerned. Then the music label *Universal Music Group* (UMG) immediately filed an objection and requested that all digital platforms withdraw the song because it was considered a violation of sound rights and vocal copyrights. Although the song is a new creation, the voice used is considered part of the public figure's right (*right of publicity*) and the artist's moral rights, so the user of *artificial intelligence* is not recognized as a copyright holder. *Artificial intelligence* can imitate voices, but that does not mean the resulting work is legitimate without the permission of the subject being imitated.

However, if the user carries out the process of curation, editing lyrics, or rearranging, then there is a possibility that he can be declared the creator within the meaning of Article 1 number 2 of the Copyright Law. In this case, copyright and economic rights to *artificial intelligence works* can be attached to humans as users, not to *the artificial intelligence* itself. Conversely, if the digital voice of *artificial intelligence* violates the related rights of the original singer, then it must go through a licensing mechanism or permission

from the heirs, which can include royalty payments in accordance with statutory provisions. Thus, in the case of an *artificial intelligence voice* that resembles a deceased singer, copyright to the new song is not immediately free from legal ties to the original singer, and the use of the imitation voice must be based on the principle of caution and legal permission. Meanwhile, copyright and economic rights can still only be owned by human legal subjects, either as the creator of the new song or as the owner of the sound rights based on an agreement [24].

In this study, comparing the sound types provided by various artificial intelligence-based music creation applications is crucial for understanding the technical characteristics that may impact the copyright status of the resulting works. Each platform, such as AIVA, Suno, and Soundful, offers a variety of digital instruments, synthetic vocals, sound effects, and audio characteristic customization options. These differences not only impact the artistic quality of the resulting works but also have legal implications, particularly in determining whether user contributions can be recognized as part of a legally protected creation. Therefore, the following table presents a detailed comparison of the sound types on these three platforms along with a brief analysis of their relationship to copyright:

Table 3. Comparison of sound types provided in music-making AI applications (AIVA, Suno, and Soundful)

Type of Sound	AIVA	Suno	Soundful	Copyright Analysis
Digital Instruments	Piano, guitar, violin, drums, synth, orchestra	Electric guitar, bass, drums, keyboards, synth	Piano, acoustic guitar, drums, bass, brass, synth	Digital instruments are generally copyright-free, but the resulting arrangements can be protected if they meet the elements of originality.
Synthetic Vocals	<i>Choir, male/female voice, opera</i>	<i>Male/female pop voice, rap voice, Artificial Intelligence generated singer</i>	<i>Female/male lead, background vocals</i>	If the vocals resemble the voice of a particular artist, it could potentially violate related rights and require permission.
Sound Effects (SFX)	<i>Ambient, cinematic effects, reverb, echo</i>	<i>FX pads, risers, drops, ambient</i>	Ambient, risers, drops, percussions FX	Sound effects are usually copyright-free, but unique combinations within a song can

Type of Sound	AIVA	Suno	Soundful	Copyright Analysis
				be a protected creation.
Sound Characteristics	Low-high pitch, classic timbre, vibrato	<i>Auto tune, pitch shift, vocal filters</i>	<i>Pop timbres, EDM filters, reverb, delay</i>	These modifications demonstrate the user's creative contribution, which may form the basis of a copyright claim if significant.
Final Result Format	MP3, MIDI, WAV (Pro Plan)	MP3, WAV	MP3, WAV, Stems	Format does not affect copyright, but determines the commercial quality of the work.

Based on a comparison of the sound types offered by AI-powered music creation apps like AIVA, Suno, and Soundful, it's clear that each platform offers a variety of digital instruments, synthetic vocals, sound effects, and different sound characteristic adjustment options. AIVA, for example, excels at orchestral compositions and classical instruments like piano, violin, and choir, while Suno focuses more on modern music styles with *AI-powered pop or rap vocals*. Soundful, on the other hand, offers a combination of pop, EDM, and ambient instruments, complemented by distinctive electronic music effects.

From the perspective of copyright law in Indonesia, as regulated in Law Number 28 of 2014 concerning Copyright, protection is granted to works that have elements of originality and are manifested in a tangible form. Digital instruments and sound effects are not essentially protected separately, but musical arrangements that utilize these instruments can be protected if they are unique creations. Synthetic vocals that resemble the voice of a particular singer raise related rights issues, especially if the singer is still alive or their heirs still hold economic rights, so users need to obtain permission to avoid legal violations.

Adjusting voice characteristics such as *pitch, timbre, vibrato*, or adding audio effects can constitute a user's creative contribution. If this contribution is significant, the user may potentially own the copyright to the resulting work, even if the original source is *artificial intelligence*. However, copyright ownership remains dependent on the licensing agreement between the user and the application provider. In many cases, particularly with free or standard service packages, copyright remains with the *artificial intelligence*

developer, leaving the user with only limited usage rights. Therefore, understanding licensing limitations is key to determining the legal status of copyrighted works generated through *artificial intelligence*, whether for non-commercial or commercial purposes.

As explained by Lidya Shery Muis, et al. (2017) in an article entitled " Legal protection of fashion copyright for the creative economy in the ASEAN economic community ", copyright in the creative economy has important value because it provides protection for original creative works, including those without formal registration. In the context of songs produced by *artificial intelligence* such as Suno or AIVA, problems arise when the voice resembles a deceased singer. Even though the work is produced by an automated system, if the voice used is similar to a particular singer, the use of the voice must still go through a licensing mechanism and potentially be subject to royalties by the relevant rights holder or their heirs. This is in accordance with the principle that copyright arises declaratively and moral rights remain attached, even after the creator's death. Therefore, from an Indonesian legal perspective, *artificial intelligence* cannot be a legal subject for copyright holders, and humans as users or directors of *artificial intelligence* have the potential to be considered copyright owners, as long as their contributions fulfill the element of originality [25].

CONCLUSION

Fundamental Finding : The study concludes that the establishment of copyright for musical works generated by artificial intelligence applications such as Suno, Soundful, and AIVA still faces substantial legal challenges under Indonesia's current copyright framework. Law Number 28 of 2014 concerning Copyright does not explicitly define the legal status of AI as a creator, leading to ambiguity in determining ownership and economic rights. Consequently, copyright recognition depends on the degree of human creative involvement: users who contribute significantly – such as by composing lyrics, setting melodies, or customizing vocals – can be acknowledged as copyright holders, while works created entirely by AI generally fall under the rights of the developer. **Implication :** These findings highlight the need for legal modernization to ensure regulatory clarity and equitable protection for creators, users, and developers in the digital music ecosystem. **Limitation :** The study is limited to a normative juridical analysis within the Indonesian context and does not incorporate comparative or empirical data. **Future Research :** Future studies should explore international legal frameworks governing AI-generated works, analyze potential models for shared authorship between humans and AI, and assess policy approaches that balance innovation with copyright protection in the evolving digital creative industry.

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Fitri Wulandari

Muhammadiyah University of Sidoarjo, Indonesia

*** Lidya Shery Muis (Corresponding Author)**

Muhammadiyah University of Sidoarjo, Indonesia

Email: lidyasherymuis@umsida.ac.id
