

Reconceptualizing the Protection of AI-Generated Works in the Digital Age: An Analysis of the Intellectual Property Laws in Nigeria and the United States

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SUMMARY

As artificial intelligence (AI) continues to advance, it has become increasingly common for AI systems to create original works such as art, music, and literature. However, the question of who owns the copyright in such works and how they can be protected under intellectual property (IP) laws remains a complex and contentious issue. In addition, issues around the eligibility of AI-generated works for protection also arise, as does the protection of such works in the digital age, where copying without attribution is rampant. The debate continues to this day as more generative AI tools are introduced to the world, the most recent being OpenAI's ChatGPT4, and now there is the talk of ChatGPT5. AI is capable of producing content based on the vast amounts of data available to it. This paper explores and compares the IP laws in Nigeria and the United States as they relate to protecting AI-generated works in the digital age. The paper will analyse the legal frameworks in both countries and consider the challenges and opportunities posed by AI-generated works for copyright law. It will further do a comparative analysis of the approaches adopted by both jurisdictions in protecting AI-generated content. The research finds that the protection of AI-generated works in both jurisdictions is quite problematic due to the principle of authorship being attributable to only humans. The paper suggests adopting best practices by both jurisdictions to aid in the protection of AI-generated works.

KEYWORDS:

Artificial intelligence, generative works, copyright, internet, ChatGPT

I INTRODUCTION

In recent years, artificial intelligence (AI) technology has grown rapidly, and its impact is increasingly felt in various industries. With the advancement of AI technology, it is now possible for AI systems to generate works of art, music, literature, and other forms of creative content. The most recent and commonly used generative AI is OpenAI's ChatGPT, which is capable of having conversations with users in a realistic way and predicting answers to questions based on pre-trained data.¹ In addition, the AI is built as a language model with the ability to create content like articles, poems, and songs and have conversations.² While this

development has presented exciting opportunities, it has also raised questions about the ownership and protection of such content under intellectual property (IP) laws. Although some generative AI tools, such as OpenAI, provide terms of use containing provisions that assign ownership of content to the user, the eligibility of the content itself to be registered is another issue. This is due to the uncertainty surrounding its originality and human involvement. The traditional approach to copyright law assumes that a human author creates a work and is, therefore, entitled to ownership of the copyright. However, in the context of AI-generated works, it is not always clear who should be considered the author or owner of the work for purposes of obtaining protection for the work. This is particularly relevant in the digital age, where AI-generated works can be easily reproduced and disseminated through various online platforms.

This paper will examine the legal frameworks in Nigeria and the United States for protecting AI-generated works in the digital space while comparing their provisions. It will explore the challenges and opportunities posed by AI-generated works for copyright law, including issues of originality, authorship, and ownership. By examining the legal frameworks in Nigeria and the United States, this paper aims to contribute to the ongoing discussion on how best to protect AI-generated work in the digital age.

The United States has a strong legal framework for IP and AI, including case law, regulatory guidelines, and statutory provisions, serving as a solid reference for Nigeria. The United States also offers a varied array of case studies and real-world examples of how AI interacts with IP rights. These examples can provide practical insights and lessons that are directly applicable to Nigeria's context. A case in point is the case of *NY Times v. OpenAI*,³ The New York Times made specific allegations against OpenAI and Microsoft. They accused OpenAI of copyright infringement and misappropriation of IP, claiming that OpenAI's use of text-generating AI models, particularly GPT-3, had led to the creation of content similar to their copyrighted material without proper authorization or attribution. The lawsuit also contended that OpenAI's actions violated copyright laws and undermined the integrity of journalistic content by creating derivative works without permission.⁴

By using the United States as a comparative benchmark, Nigeria can tap into advanced legal, technological, and policy insights. This approach can significantly contribute to the development of a robust and practical strategy for reconceptualizing AI and IP within Nigeria's jurisdiction, enhancing its position in the global AI landscape.

2 PROTECTION OF AI-GENERATED WORKS UNDER NIGERIAN LAW

The principal law governing the protection of creative content such as artistic, musical, and literary works is the Nigerian

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¹ Werina Griffiths, *AI-Generated Content-Who Owns the Copyright?* (23 Feb. 2023), <https://techcentral.co.za/ai-generated-content-who-owns-the-copyright/222588/> (accessed 28 Apr. 2023).

² Brian Frederick, *Will ChatGPT Take Your Job?* (16 Jan. 2023), <https://www.searchenginejournal.com/will-chatgpt-take-your-job/476189/> (accessed 28 Apr. 2023).

³ Case 1:23-cv-11195.

⁴ See also N. Itanyi, *Nigeria Artificial Intelligence and Its Impact on Nollywood: Bridging the Compensation Gap*, 1(1) J. AI L. R.eg. 143-149 (2024), doi: 10.21552/aire/2024/1/17.

Copyright Act 2022 (the Act). This is because the works generated by the AI are mainly within the categories of works classified under the Act as eligible works.⁵ These include literary works, musical works, artistic works, audio-visual works, sound recordings, and broadcasts.⁶ Generative AI refers to the process of training a machine learning model with existing content to create new works. Through millions of trials and errors, the model learns from the content that is fed into it and uses what it 'knows' to generate a new piece of work based on written prompts by users.⁷ AI-generated works are not limited to content like writing but also photos, drawings, and paintings. The popular AI-generative tools DALL-E and Stable Diffusion are image-generating AI tools trained on a range of images from the web. They operate on a similar principle as the other AI tools that generate written content. These works are all protected by copyright, provided they meet the eligibility criteria contained in section 2 of the Copyright Act 2022. The requirements set by section 2 include the following:

- (1) Some effort has been expended to make the work original; and
- (2) It has been fixed in a medium of expression;

Where a work has met the above requirements, it will be eligible for copyright, irrespective of the quality of the work.⁸

Although the categories of AI-generated works are protected under the law as literary and artistic works, the issue of ownership of the work often arises, especially in situations where the terms of use do not address the issue of ownership as stated in OpenAI's terms of use. This is because AI tools are trained using existing works, usually without permission, so the question of copyright is important. Some creators question whether the companies creating the machine learning models had a legal right to use their works. The answer turns on questions of fair use and a concept within it called transformative use.⁹ Copyright, as it was originally intended, affords an exclusive right to the creator of an original work to exploit that work as they choose for a limited period of time. A work becomes public domain after its copyright term has expired, enabling anyone or any business to use it for any purpose without restriction, permission, or attribution.¹⁰

Generally, in Nigeria, copyright in a work belongs to any person who is regarded as the creator or author of the work. An author is also defined as any 'person' who creates the different categories of works contained in the Act.¹¹ Again, the Nigerian Patents and Designs Act vests the right to a patent in the statutory inventor, who is a person.¹² Similarly, section 5 of the Copyright Act 2022 ties the concept of authorship to personhood, that is, an individual who is a citizen of or domiciled in Nigeria or a body corporate incorporated by or under the laws of Nigeria. Although the Nigerian Copyright Act offers protection to computer programs or software codes, it does not contemplate a situation where the author of the program is non-human.

⁵ Copyright Act 2022, s. 2.

⁶ *Ibid.*

⁷ Ryan Merkley, *On AI-Generated Works, Artists, and Intellectual Property* (Lawfare 28 Feb. 2023) <https://www.lawfareblog.com/ai-generated-works-artists-and-intellectual-property> (accessed 1 May 2023).

⁸ Copyright Act 2022, s. 2(3).

⁹ Merkley, *supra* n. 7.

¹⁰ *Ibid.*

¹¹ Copyright Act, s. 108.

¹² Patent and Designs Act, Cap 344, LFN 1990, s. 2.

3 COPYRIGHT PROTECTION ON THE INTERNET IN NIGERIA

Prior to the enactment of the Copyright Act 2022, copyright infringements in the digital space were rampant. The new Copyright Act in Nigeria now provides for the regulation of the digital space by imposing enormous responsibilities on internet service providers to ensure that infringing content is taken down from their network upon receipt of a notice of infringement.¹³ It also mandates that the Internet Service Provider (ISP) ensures that content that has been taken down from the internet is not reloaded.¹⁴ By requiring that the ISP itself remove infringing content rather than the infringer, this provision seeks to prevent online infringements. In this case, the ISPs are responsible for ensuring that such content is not hosted on their platform, as failure to comply with this provision amounts to liability to the same extent as the person responsible for putting the content on the network or system.¹⁵ In addition, the Act empowers the ISP to suspend an account with infringing content where the subscriber has been warned twice about the content.¹⁶

Furthermore, the new Act prohibits the circumvention of technological protection measures adopted by a copyright owner.¹⁷ These are measures installed or implemented by a copyright owner to prevent access to a protected work by potential infringers. In addition to this, the Act also prohibits the falsification, removal, or alteration of rights management information.¹⁸ This is the information that identifies a person as the owner or author of a work. Thus, the falsification of such information will amount to an infringement action under the Act.

4 COPYRIGHT PROTECTION IN THE UNITED STATES

The Copyright Act of 1976, a federal statute, regulates copyright law in the United States.¹⁹ The Copyright Act prohibits the unauthorized reproduction of an author's work. However, the Act only prohibits copying the work itself, not the ideas that constitute the work. This is because, like in Nigeria, copyright protects the expression of ideas or works fixed in a tangible medium and not the ideas themselves, which is why there is a fixation requirement.²⁰ For example, a copyright may protect a written description of a machine but not the machine itself. As a result, no one could copy the written description, but anyone could use it to build the described machine.²¹ The idea also implies that there can be copyright in two works that express the same idea because copyright only applies to the original expression of the idea. For instance, two people could independently create sketches of the same tree, with neither of them violating the copyright of the other's sketch.²²

¹³ Copyright Act 2022, s. 54.

¹⁴ *Ibid.*, s. 55(3).

¹⁵ *Ibid.*, s. 55(6).

¹⁶ *Ibid.*, s. 58.

¹⁷ *Ibid.*, s. 50.

¹⁸ *Ibid.*, s. 51.

¹⁹ *Copyright Law in the United States*, <https://www.bitlaw.com/copyright/index.html> (accessed 7 May 2023).

²⁰ Copyright Act 2022, s. 2.

²¹ *Ibid.*

²² Editor C com A, *A Simple Guide to U.S. Copyright Law* (Copyrightlaws.com: Copyright courses and education in plain English

Copyrights can be registered in the Copyright Office at the Library of Congress, but newly created works do not need to be registered. In fact, a copyright notice is no longer required for a work to be protected under copyright law. However, the Copyright Act does provide additional benefits to those who register with the Copyright Office. As a result, copyright registration and the use of a copyright notice are advised.²³ This is a similar position to what is available in Nigeria. Under the Nigerian Copyright Act 2022, registration is not a requirement for protection, but it is advisable to register a work for evidentiary purposes in the event of an infringement action.²⁴

5 PROTECTION OF AI-GENERATED WORKS UNDER UNITED STATES LAW

Like in Nigeria, AI-generated content or any creative content in the US is regulated by the Copyright Act, which is administered by the US Copyright Office (USCO). The protection of AI-generated content in the United States is founded on the same principles as in Nigeria. Namely, that copyright is granted to the human author of a work and not a machine. According to US copyright law, IP can be protected only if it is the product of human creativity, and the USCO only acknowledges work authored by humans at present.²⁵ Therefore, machines and generative AI algorithms cannot be authors, and their outputs are not copyrightable.²⁶ The USCO has received many applications for registration of AI-generated works such as musical works, artworks, writings, etc. Consequently, the USCO issued a Statement of Policy to the effect that works generated or produced mechanically will not be eligible for copyright because of the absence of a human author.²⁷ It stated further that where there is a partial involvement of the AI and the human, such as where the AI-generated content is developed by the human, copyright will be given for parts of the work that was done by the human. This was the decision of the court in the Kashtanova Case, which is analysed below.

The 'USCO' granted an unprecedented registration for a comic book created with the aid of AI in September 2022. The creator of *Zarya of the Dawn*, Kristina Kashtanova, explained that the USCO had requested that she provide evidence that significant human involvement was involved in the creation of this graphic novel.²⁸ Nonetheless, a few months later, the USCO issued a cancellation notice to an author who had registered a novel written by an AI system in

October 2022. The author was given thirty days to appeal USCO's decision, during which the copyright is still active. Her lawyer has already submitted a letter to testify regarding the human involvement in the creation of AI art, arguing that it could enjoy copyright protections since the creative process of using generative AI is 'essentially similar to the artistic process of a photographer's selection of a subject, a time of day, and the angle and framing of an image'.²⁹ The court has decided that only the artist's original works will be subject to copyright protection. According to the statement of policy, applicants who submit their works for registration from now on must declare if AI was used in any part of the work, and those who have submitted applications that lack this declaration must amend them.³⁰

In February, the USCO upheld a decision not to register 'A Recent Entrance to Paradise', a novel written by an AI system developed by Stephen Thaler.³¹ The appeal was denied because the author was not a human being. In *Naruto v. Slater*,³² a US court ruled that an animal, in this case, a monkey, is not entitled to copyright protection because the right is only applicable to humans. The position of the US is clear, as established under case law and the policy released.

6 COMPARATIVE ANALYSIS OF NIGERIAN AND US APPROACHES TO THE PROTECTION OF AI-GENERATED WORKS

The approaches adopted by Nigeria and the US towards protecting AI-generated works are similar to a great extent. This is because both jurisdictions attribute copyright ownership to human creators, not machines. A point of divergence between the US and Nigeria is that the US has a more specific position on the protection of AI-generated works in that the Copyright Office has issued a Statement of Policy on the issue, and the court has also decided that copyright can only reside in a human author and not a machine. The court further stated that only the human-contributed portion of a work will be copyright-protected where a machine contributes to its production. However, in Nigeria, there is currently no case law or specific regulation on the protection of AI-generated works. The only reference made to a legal position is based on the definition of an author under the Act.

In addition, Nigerian law provides for the protection of AI content in the digital space to protect works on the internet. As noted above, the new Copyright Act makes extensive provisions for the prevention of copyright infringements in the digital space by imposing legal obligations on internet service providers to take down infringing content and also ensure that such content is not reloaded on their system.³³ In addition, it prohibits circumvention of preventive measures adopted by an author to protect their work from infringement.³⁴ This is a valuable addition to punishing people who may want to hack a system and steal protected work. The Act also criminalizes falsification of the rights

22 Aug. 2022) <https://www.copyrightlaws.com/a-simple-guide-to-us-copyright-law/> (accessed 7 May 2023).

²³ *Ibid.*

²⁴ Copyright Act 2022, s. 87.

²⁵ K. Quach, *AI-Generated Art May Be Protected, Says US Copyright Office* https://www.theregister.com/2023/03/16/ai_art_copyright_usco/ (accessed 7 May 2023).

²⁶ *Ibid.*

²⁷ Mattei SE-D, *US Copyright Office: AI Generated Works are Not Eligible for Copyright* (ARTnews.com 21 Mar. 2023) <https://www.artnews.com/art-news/news/ai-generator-art-text-us-copyright-policy-1234661683/> (accessed 2 May 2023).

²⁸ J. Borg, G. Podoprikin, & L. Alexander, *AI-Generated Art: Copyright Implications* (23 Feb. 2023), <https://www.mondaq.com/copyright/1286188/ai-generated-art-copyright-implications> (accessed 3 May 2023).

²⁹ *Ibid.*

³⁰ Mattei SE-D, *supra* n. 27.

³¹ Borg, Podoprikin & Alexander, *supra* n. 28.

³² No. 16-15469 (9th Cir.2018).

³³ Sections 54 and 55.

³⁴ Section 50.

management system.³⁵ Interestingly, this position is absent under US law, as the law is way older than the Nigerian law that was recently enacted, which repealed the old law. The new law takes into consideration some infringing activities that are perpetrated on the internet without adequate regulation.

Although the eligibility of AI-generated works for copyright protection is still a subject of debate due to the uncertainty surrounding the originality of the content, such content may still be infringed upon by others where the ownership of the content has been determined. For instance, in situations where ownership is defined, like where the terms of use specify or state that the owner of the content is the user of the AI tool, the content can be infringed upon by another person who is not the owner, irrespective of the issues surrounding its originality.

The principles of ownership of AI-generated work are not limited to copyright alone but also other forms of IP, such as patent law. The US patent law requires that the invention be made by a human while in Nigeria before it is protected by law. In Nigeria, the Patents and Designs Act vests the right to a patent in the statutory inventor, who is a person.³⁶

7 CHALLENGES AND OPPORTUNITIES ASSOCIATED WITH AI-GENERATED WORKS

7.1 Challenges

- (1) Defining authorship: The traditional concept of authorship assumes that a human creates a work, which poses a challenge for determining who owns the copyright in AI-generated works. Both the US and Nigerian Copyright Acts attribute ownership to a 'person' by the very use of the word and nothing else.³⁷
- (2) Originality: Copyright law requires that a work be original to be protected.³⁸ However, AI-generated works are often based on existing data or content, making it difficult to determine their originality.
- (3) Ownership: Ownership of AI-generated works is often unclear, as multiple parties may be involved in their creation, including the developer of the AI system, the person who provided the data, and the person who trained the system. For generative AI tools like ChatGPT, whose terms of use clearly define ownership, this issue may not arise. However, in every other case, ownership of the generated work raises IP issues.³⁹
- (4) Reproduction and dissemination: The ease with which AI-generated works can be reproduced and disseminated through digital platforms poses a challenge for enforcing copyright law. However, the provisions of the Nigerian Copyright Act 2022 address this challenge to a large extent, as noted above. The US will have to develop

similar principles or amend its laws to address emerging technology issues online.

7.2 Opportunities

- (1) Innovation: AI-generated works can potentially drive innovation in various industries, including art, music, and literature. This is because it enables the creation of new forms of content by artists in various fields.
- (2) Collaboration: Collaboration between AI developers, artists, and legal experts can help to develop best practices and guidelines for protecting AI-generated works. This is possible because they represent persons of interest, and developing strategies to drive AI protection will come naturally.
- (3) New revenue streams: AI-generated works can create new revenue streams for creators and copyright holders, as well as new business opportunities for companies that develop AI systems.
- (4) Access to new forms of creativity: AI-generated works can provide access to new forms of creativity, such as music or art, that would not have been created without the assistance of AI.

By recognizing the challenges and opportunities posed by AI-generated works, policymakers and stakeholders can work towards developing effective strategies for protecting these works and ensuring that their creators are fairly compensated.

8 BEST PRACTICES FOR PROTECTING AI-GENERATED WORKS

In order to effectively protect AI-generated works in both jurisdictions under consideration, the following best practices have been suggested:

- (1) Clarify Ownership: IP laws should clearly define who owns copyright in AI-generated works. This could be the person who created the AI system, the person who trained it with available data, or the person who provided it with data to produce an output (the user). For OpenAI, the terms of use assign copyright ownership of the output to the user.⁴⁰ Therefore, in this case, the issue of ownership does not arise.
- (2) Expanding copyright law: As technology advances, there will be a need to eventually expand copyright laws to cover AI-generated works. This could include recognizing the AI system as a legal entity that can own the copyright or granting copyright protection to the person who trained or supervised the AI system.
- (3) Use Open-source licences: Open-source licences can provide a framework for sharing and using AI-generated works while still protecting the copyright. These licences could include attribution requirements or restrictions on commercial use.
- (4) Develop technical solutions: Technical solutions such as digital watermarks or blockchain technology can help identify and track ownership of AI-generated works. In addition, the implementation of technological protective measures as defined under the Nigerian Copyright Act should be considered, as this will aid in the prevention of

³⁵ Section 51.

³⁶ Patent and Designs Act Cap 344, LFN 1990, s. 2.

³⁷ Nigerian Copyright Act, s. 108.

³⁸ *Ibid.*, s. 2(a).

³⁹ Christian Anikwu, *Exploring the Impact of ChatGPT-3 AI on the Future of Work: An Intellectual Property Perspective* (Stren & Blan Partners 2023) <https://strenandblan.com/2023/03/29/exploring-the-impact-of-chatgpt-3-ai-on-the-future-of-work-an-intellectual-property-perspective/> (accessed 7 May 2023).

⁴⁰ Open AI, *Terms of Use*, <https://openai.com/terms/> (accessed 1 May 2023).

copyright infringements in the digital space. The use of information rights management is also recommended.

- (5) Encourage collaboration and stakeholder engagement: Collaboration between AI developers, artists, and legal experts can help develop best practices and guidelines for protecting AI-generated works. Policies that aim to preserve AI-generated content will be developed and implemented through collaboration and stakeholder engagement. In addition, laws that recognize content developed independently by AI will be developed through a constant push by stakeholders.

9 CONCLUSION

The development of AI-generated works has created a new frontier for IP law. The ownership and protection of these works are complex issues that require careful consideration. The analysis of the legal framework for the protection of AI-generated works reveals that both the US and Nigeria do not recognize an AI as the author of a work, but it is

agreed that the work is eligible for copyright protection where there is human involvement. The US position on this is very clear following the recent case and the release of a policy statement to that effect. Although there are no official statements or court decisions from Nigeria, as in the US, the existing legal framework alludes to the fact that AI-generated content cannot be protected because the creator is not human. It is also essential that the governments of both jurisdictions rethink their position on protecting AI-generated works, as the world is evolving and protecting such content is necessary for promoting innovation. Alternatively, the courts may consider the option of joint ownership or authorship of the work between the AI and the user. In addition, to protect AI-generated works in the digital age, it is necessary to clarify the concept of ownership and adopt protective measures. Interestingly, Nigeria's current copyright regime attempts to regulate the digital space, which is commendable. The US can also develop policies and laws that address infringements and provide for copyright protection in the digital space.