



ARTIFICIAL INTELLIGENCE AND COPYRIGHT LAW: REASSESSING AUTHORSHIP AND OWNERSHIP IN THE AGE OF GENERATIVE AI

Nisha Parveen

Llm in corporate in law

ABSTRACT

Traditional copyright laws have faced immense challenges due to the speed at which Artificial Intelligence (AI) has progressed and developed the ability to compose and create text, images, music, videos and more with little to no human involvement. This research explores the implications of generative AI for copyright law, focusing on the notions of originality, creativity, authorship and ownership. It explores the impact of AI-generated content on traditional copyright principles, examines the legal classification and copyrightability of AI-created content, and examines ownership and liability questions when using and producing AI content. Analysis of the regulatory and judicial landscape in the United States (US), European Union (EU), United Kingdom (UK), China and India shows that most jurisdictions still hold that human authors are necessary to have copyright protection, albeit with varying levels of flexibility in the wake of technological progress. The research also highlights various issues regarding copyright violations, ownership rights, and the utilization of copyrighted content in AI training sets. From this conclusion, the study suggests a balanced approach that highlights a role in a meaningful capacity for human contribution, transparency, accountability, compensation for rights holders, and international regulatory harmonization. The study concludes that current copyright law needs to be adapted to fit the realities of AI-generated content and to ensure that the copyright's underlying goals of encouraging innovation and protecting human creativity are not undermined.

Keywords: Generative Artificial Intelligence (AI), Copyright Law, Authorship, Ownership, Intellectual Property Rights, AI-Generated Content, Copyright Protection, Legal Regulation.

1. INTRODUCTION

In the modern era, one of the most impactful technological advancements has been the emergence of AI. AI has revolutionized the way information and creative content are created and shared. With machine learning and deep learning, new systems can be built to generate code, music, video, and images. Thanks to machine learning and deep learning, text, images, music, and videos can be generated with new systems, which can also be used to create software code. Generative AI differs from conventional software which runs on predetermined instructions; instead, it learns from huge quantities of data and produces outputs that can be similar to those produced by humans. With the rise of tools like ChatGPT, DALL·E, and Midjourney, AI has become a valuable ally in the creative industry and has sparked significant legal questions.

The copyright legislation has always upheld the creativity of human beings by ensuring that the works they created are protected. Originality, creativity and human authorship are core concepts of copyright protection. The current copyright systems were conceived from the premise that creative expression stems from human intellectual activity. The generation of advanced content by AI systems, however, puts these assumptions and norms to the test and introduces questions regarding the applicability of the existing copyright rules. This surge in AI-generated content has then led to some confusion about who can claim ownership of it, who can be credited as the author, and what protection belongs to copyright.

These developments have provoked extensive discussion among politicians, judges, academics and tech firms around the globe. However, at this time AI is not a legal entity and cannot be considered the "author" of the work under copyright law, making the process of determining rights even trickier. The legal landscape is evolving as various jurisdictions take different steps to regulate AI-generated content. In this context, this research investigates how generative AI has affected copyright law, analyzed the current legal landscape, and suggested a compromise model that encourages innovation while protecting IP rights and creators' interests.

To explore how GPT impacts on copyright fundamentals, specifically originality, creativity and the human author; to evaluate the legal status and copyrightability of AI-generated works as per the existing copyright law; to analyses regulatory and judicial approaches across jurisdictions; and to suggest a balanced approach that leverages the benefits of AI to enhance innovation while safeguarding IP rights and creators' interests.

2. LITERATURE REVIEW

Abbott and Rothman (2023) explored how the use of generative AI influenced the traditional understanding of copyright laws and concluded that the advent of AI-based content generation had made conventional notions

of authorship and ownership obsolete. The researchers pointed out that existing copyright laws were mainly intended to encourage human creativity and hence were ill-equipped to deal with the issues related to content generated by machines.

Fenwick and Jurcys (2023) considered the notion of originality with respect to generative AI and evaluated the extent to which the currently available standards for copyright apply. The scholars found that despite relying on algorithms to produce their output, the results were frequently characterized by elements of originality. It was concluded that the current understanding of originality, based on human effort, was no longer relevant due to the advancement of technology.

Annan (2023) investigated problems that arose in connection with ownership and authorship of AI-created works. The research showed that most legal systems kept considering humans to be authors, so only partially automated AI works received any kind of protection. The researcher pointed out that there should be legal standards that would help define ownership between users, developers, and other companies who were working with AI technologies.

Wyczik and Wiczerzak (2024) discussed problems related to the ownership of the products created through AI and stated that generative AI necessitated the rethinking of existing doctrines of copyright law. The scholars pointed out that the current approaches were often insufficient in addressing such cases involving machine-generated work and various parties. It became clear that there was a need for reasonable regulation in such cases.

3. GENERATIVE AI AND THE CHALLENGES TO TRADITIONAL COPYRIGHT PRINCIPLES

Generative AI has posed formidable questions to the core of contemporary copyright law. The basis of the traditional copyright systems is the belief that creative works are the product of human intellect and work. But today AI systems are capable of producing complex content with little human intervention, raising questions about authenticity, innovation and the identity as to who created the content. This has led to new technologies challenging existing copyright laws, which were not thought of when the laws were created.

3.1 Originality and Creativity in AI-Generated Works

Originality is one of the most significant elements to apply to a work for copyright protection. The traditional criteria for originality include an original source and a level of some creativity. Copyright systems generally

do not cover ideas as such, but the original expression of those ideas. Originality has, therefore, been closely associated with the human mental exertion and creative assessment.

Generative AI poses a challenge on this requirement as it is produced using algorithms that have been trained on a vast amount of information. While AI content might be new and original, it can also be a product of patterns, relationships, and data drawn from existing pieces of content. This brings up many intriguing issues related to whether this output is genuinely new creation or simply a high-level rendition of what is already known. The difficulty is whether the originality can be measured by the final product itself or by the process of creation on how it was made.

Likewise, defining creativity in the era of AI-generated content is becoming more challenging. Creativity, traditionally, is attributed to the imagination, the expression and conscious decision of the human person. This doesn't mean that AI systems are emotional, goal-driven, or creative, however. They have this drawback, but can still produce content that may seem very creative to people. This has raised the question of whether creativity is a product only of the human mind, or if works created by technology meet the creative criteria established for copyright protection.

3.2 Human Authorship as a Cornerstone of Copyright Protection

The copyright law system has traditionally been based on the human authorship. The creator of a work has copyright protection in most cases where the creator has exercised creative control over the production of the work. The author is known as the creator of the copyright of economic rights, as well as the creator of moral rights of creative expression. This has created a direct linkage between human creativity and legal protection, which has been an assumption of copyright law.

This is a rule that is being broken by the rise of generative AI that can create content without ongoing human effort. The output generated may be the result of a complex computational process which is not directly controllable by the user, but the user can give prompts or instructions. This poses questions about which entity should be credited with authorship of AI-generated content. The user who started the process may be a potential claimant, as could be the developer of the AI system, the owner of the platform, or perhaps no one.

The idea of attributing to AI the role of author is rejected by most of today's legal systems, as it is impossible to confer the legal personality to an AI that is able to exercise rights and obligations. However, with the growing independence of AI systems, the current copyright laws are exposed to their weaknesses. With the rise of AI-generated content, it is important that courts and policymakers establish a threshold for human

intervention and determine when the content can be considered “original” and eligible for copyright protection. With the increasing prevalence of AI-generated content, the courts and policymakers will have to set a standard for human involvement and establish when the content is sufficiently original to be eligible for copyright protection.

3.3 The Transformation of Creative Production in the Digital Age

Generative AI has revolutionized creative production through its impact on the creative to technology dynamic. Traditionally, technologies like cameras, computers and design software were used to aid the human creative process. Generative AI systems, on the other hand, engage in content creation by generating text, images, music, and other forms of content with minimal human intervention. This has made the difference between the creator and the tools used fuzzier and has opened the questioning of where creative expression comes from.

The adoption of Generative AI also has made content creation more accessible, allowing people with little artistic or technical skill to produce high-quality content. AI tools are becoming more prevalent in the business world, helping companies boost productivity and document creation, among other applications, and are increasingly being adopted by educators, writers, marketers and artists, as well, to enhance creative output and efficiency. Although these innovations and accessibilities are good, they also stir up anxiety about the worth of human creativity, level playing field, and safeguarding of intellectual property rights.

One of the other major issues is the copyright of materials used in AI training. Numerous generative AI models are based on massive databases of legally protected works that are sourced from digital platforms, without express permission from the rights owners themselves. This has led to discussions on copyright issues, fair use, licensing, and compensation for creators. With generative AI emerging, this technology has brought to light the importance of new legal structures that can handle the new copyright questions of the digital age.

Table 1: Key Copyright Challenges Posed by Generative AI

Copyright Principle	Traditional Understanding	Challenge Introduced by Generative AI
Originality	Work must originate from human intellectual effort	AI-generated outputs may appear original despite limited human involvement

Creativity	Creative expression is linked to human imagination and judgment	AI can generate creative-looking content without conscious intent
Authorship	Author is the human creator of the work	Difficulty identifying the rightful author of AI-generated content
Ownership	Copyright generally belongs to the creator or rights holder	Uncertainty regarding ownership among users, developers, and AI providers
Infringement	Unauthorized use of protected works constitutes infringement	AI training datasets may contain copyrighted materials without permission

Source: Compiled by the author.

4. COPYRIGHTABILITY AND OWNERSHIP OF AI-GENERATED WORKS

With the rise of generative AI, there are relevant legal issues concerning the copyrightability and ownership of AI-generated content. The traditional copyright systems are designed on the assumption that creative works are the products of human mental activity and thus, can be protected by law. But with the advent of AI systems capable of creating text, images, music and other forms of creativity, this has come into question. This has raised questions among legal experts, judges, and policymakers regarding the copyrightability of AI-generated creations and the potential owner of these rights. This has led to a debate over the copyrightability of AI creations and who should be considered the rightful owner of those rights.

4.1 Legal Status and Copyrightability of AI-Generated Content

In many regions, the legal framework of AI-generated content is still unclear. Generally, in copyright law, to be protected, a work must be original and be the work of a human author. AI systems lack legal personality and creative consciousness, and many legal systems fail to consider them as the author. As a result, AI-created works that are entirely independent are not necessarily covered by the protection of copyright.

But, even in this role, AI-generated work is becoming more prevalent in creative and commercial industries. Those who believe in copyright protection say that a lack of protection can deter innovation and investment in AI technologies. Other people argue that copyright should only be associated with human creativity, for the main intent of copyright law is to promote and encourage human intellectual labor. The debate continues because classic concepts of 'creativity' and 'legality' remain very challenging to the new types of creative productions generated by machines.

4.2 Ownership Models for AI-Generated Works

In cases where AI-generated works are deemed eligible for copyright protection, it can be difficult to establish who owns the rights. One way to do this is by the user ownership model, which gives credit to the person who is giving the prompts and instructions, since they started the creative process. The alternative is a developer ownership model that allows the ownership to reside with the developers/operators of the AI system, for the reason that the output is generated with technology created by them.

A third option is the joint ownership model, in which the rights to ownership are shared by a number of stakeholders, such as users, developers and organisations that contribute to the production process. There have been proposals to modify the copyright system by introducing a public domain approach, which would mean that fully autonomous AI creations would not be eligible for copyright protection and would become public domain. These models bring different legal, economic, and ethical issues, thus making it necessary to have more clear regulatory guidance.

Table 2: Comparative Overview of Ownership Models for AI-Generated Works

Ownership Model	Potential Rights Holder	Key Advantage	Key Challenge
User Ownership	User providing prompts and instructions	Rewards human input and creative direction	Difficult to determine the level of contribution required
Developer Ownership	AI developer or platform provider	Encourages investment in AI development	May undervalue the role of users in content creation
Joint Ownership	Users and developers collectively	Recognizes contributions from multiple stakeholders	Complex management and allocation of rights
Public Domain	No exclusive rights holder	Promotes open access and public use	May reduce incentives for commercial innovation

Source: Compiled by the author based on contemporary literature on AI-generated works and copyright law.

4.3 Liability and Copyright Infringement Concerns

There are also fresh worries about copyright issues and legal responsibility with generative AI. Large datasets are utilized for training many AI systems, which can include copyrighted text, images, music, and other

protected content. There has been some concern about the use of such content without permission, as well as the licensing requirements and potential for infringing on intellectual property rights. More rights holders have come forward to oppose the use of their material without authorization in the training processes of AI systems, resulting in legal conflicts in various jurisdictions.

This becomes even more complicated if AI-generated outputs are highly similar or identical to protected materials. When this occurs, it may be hard to identify the parties responsible, since there can be several users, developers, platform suppliers and data suppliers to consider. Current copyright laws are not clear about who is responsible for copyright infringement caused by AI. Accordingly, there is an increasing demand for legal frameworks which robustly articulate accountability, alongside innovation, technological development and the safeguarding of creators' rights.

5. COMPARATIVE REGULATORY AND JUDICIAL APPROACHES TO AI-GENERATED CONTENT

The rapid proliferation of generative AI has led to a global rethinking about the application of copyright law to AI-produced content by governments, courts, and regulatory bodies. Traditional copyright laws are based on the notion of human creativity and authorship, but with AI-generated content, different jurisdictions have taken varying approaches to the legal issues. Some law traditions still stick to the strict principle of human authorship; others have taken a more liberal stance to keep up with the advances of technology. Comparing key jurisdictions gives us useful insights into the trends of law and the growing global discussion about who owns, owns not and copyright protects in the era of generative AI.

- **United States:** The US places significant emphasis on human authorship to qualify for copyright protection. According to the US Copyright Office, if the work was created purely by AI without any human participation, then it cannot be copyrighted. Consequently, copyrighting can be done only if some human contribution is established.
- **European Union:** In the EU, copyright protection is tied to the human creativity that went into creating the subject matter protected by copyright. According to EU copyright laws, originality results from human creativity, and computers cannot be considered creators under such laws.
- **United Kingdom:** The UK uses a more flexible system, where the issue of copyrighting can be solved by using rules on computer-generated works. In the case of the Copyright, Designs and Patents Act, the author can be the person who made the arrangement for the creation of the work.

- **China:** In China, a pragmatic perspective towards generated content has been embraced. The judicial system has demonstrated readiness to extend protection in the presence of significant human intervention, fostering technology advancement and intellectual property protection.
- **India:** India is still adhering to the basic rules of copyright that revolve around the principle of human creation. While there have been mentions of computer-generated material in the Copyright Act, the exact legal position of more complex forms of AI-generated material is not clear.

Table 3: Comparative Analysis of Global Approaches to AI-Generated Content

Jurisdiction	Position on AI Authorship	Copyright Protection for AI-Generated Works	Key Regulatory Characteristic
US	AI is not recognized as an author	Limited to works involving substantial human contribution	Strong emphasis on human authorship
EU	AI is not recognized as an author	Requires human intellectual creation	Focus on originality and human creativity
UK	AI is not recognized as an author	Possible protection through computer-generated work provisions	Flexible statutory framework
China	AI is not recognized as an author	Conditional protection where human involvement exists	Pragmatic and innovation-oriented approach
India	AI is not recognized as an author	Legal position remains largely uncertain	Reliance on traditional copyright principles

Source: Compiled by the author based on comparative analysis of contemporary copyright frameworks.

6. TOWARD A BALANCED FRAMEWORK FOR AI INNOVATION AND COPYRIGHT PROTECTION

Generative AI is evolving at a fast pace, revealing many limitations and inadequacies of current copyright protections. Most of the copyright laws were established under the premise that creative works are created by a human, which can cause issues with the legality of AI-generated works. With the growing sophistication and ability of AI systems to generate creative works with minimal human intervention, there is a pressing need for

changes in the law that can keep pace with technological progress while maintaining the underlying goals of copyright protection.

The demarcation of a "threshold of human intervention" is one of the factors to be taken into account for future copyright governance. Copyright should still be able to safeguard and reward “meaningful human creativity” while allowing for the emergence of a new creative paradigm involving AI. Legislation should accordingly consider the degree of human engagement in the creation, selection, editing or improvements of outputs produced by AI to enhance clarity over authorship and ownership rights.

Open and accountable regulation should also be key elements of a future regulatory regime. The information about the data used for training and the content generated by generative AI systems, as well as the steps taken to avoid copyright violations, should be disclosed by the developers and operators of the systems. Accountability mechanisms should also be made clear to identify responsibility for the actions of AI systems that breach intellectual property rights or otherwise cause legal harm, to enhance trust in AI tools.

A key element of reform is the equitable payment of creators whose work is being used for the creation, development, and training of AI. As AI becomes increasingly global, the importance of international collaboration and harmonization of copyright norms cannot be overstated. A future-oriented governance framework must strike a balance between innovation, creativity, accountability and intellectual property protection – copyright law must remain effective and relevant in the ever-changing digital landscape, where the use of AI is becoming more prevalent.

7. CONCLUSION

Generative AI has fundamentally shifted the copyright landscape of originality, creativity, authorship, ownership and infringement. The researchers discovered that the current copyright system, which was developed mainly for human-created works, has major challenges in the context of AI-generated works. The comparative analysis of the jurisdictions showed that the focus was still on human authorship, with different regulatory approaches developing to deal with the increasing use of AI in creative production. The results point to the need for some changes in the law such as setting clear rules for authorship, ownership, liability, and copyright protection, in addition to favoring technological innovation. Moving forward, it is important that the regulatory frameworks around copyright are transparent, balanced and harmonized internationally, so that copyright is fit for purpose and still relevant in the AI era.

REFERENCES

1. Abbott, R., & Rothman, E. (2023). *Disrupting creativity: Copyright law in the age of generative artificial intelligence*. *Fla. L. Rev.*, 75, 1141.
2. Annan, A. O. (2023). *Intellectual Property Ownership and Authorship in AI-Generated Works*.
3. Apraxine, V. (2024). *EU Copyright law as a catalyst of change: Empowering artists and fostering human creativity amidst the rise of generative artificial intelligence*. Available at SSRN 5102093.
4. Barqawi, L., & Abdallah, M. (2024). *Copyright and generative AI*. *Journal of Infrastructure, Policy and Development*, 8(8), 6253.
5. Díaz, J. S. S. (2024). *Pondering the Impact of Generative AI on Copyright Validity*. *Dos mil tres mil*, 26, 1-10.
6. Fenwick, M., & Jurcys, P. (2023). *Originality and the future of copyright in an age of generative AI*. *Computer Law & Security Review*, 51, 105892.
7. Hutson, J. (2024). *The evolving role of copyright law in the age of AI-generated works*. *Journal of Digital Technologies and Law*, 2(4), 886-914.
8. Napitupulu, P. A., Sinaga, C. A. F., & Hasugian, A. L. P. (2023). *The implication of generative artificial intelligence towards intellectual property rights (Examining the multifaceted implications of generative artificial intelligence on intellectual property rights)*. *West Science Law and Human Rights*, 1(4), 253-262.
9. Oberting IV, V. A. (2024). *Generative Artificial Intelligence and Copyright in the Film and Media Industry*. *Wash. & Lee L. Rev. Online*, 82, 123.
10. Puri, S., & Gupta, S. (2023). *AI and Copyright: Navigating Legal Frontiers in the Age of Artificial Intelligence*. *Jus Corpus LJ*, 4, 26.
11. Sharma, S. (2024). *Redefining Liability: Intellectual Property Challenges in the Age of AI*. *LawFoyer Int'l J. Doctrinal Legal Rsch.*, 2, 316.
12. Singh, S. (2024). *Adapting Copyright in the Age of AI: Rethinking Authorship and Safeguarding Generative AI Work*.
13. Vebritha, S. (2024). *Redefining Ownership and Originality in the age of AI: A Legal and Ethical review*. *Sinergi International Journal of Law*, 2(4), 312-324.
14. Wyczik, J., & Wiczerzak, R. (2024). *Rethinking copyright: the art of ownership in AI outputs*. *Eastern European Journal of Transnational Relations*, 8(1), 39-52.
15. Zirpoli, C. T. (2023). *Generative artificial intelligence and copyright law*.