

INTELLECTUAL PROPERTY AND OWNERSHIP OF AI-GENERATED WORKS IN NIGERIA: CONCEPTUAL, THEORETICAL AND LEGAL PERSPECTIVES*

Abstract

There is a complex relationship between artificial intelligence and intellectual property law, with the constantly evolving creations of AI products in respect of ownership. This work examines the conceptual, theoretical and legal perspectives of AI-generated contents across copyright, patents and trademarks. With the rapid advancements in AI technology, machines are increasingly capable of autonomously generating creative works, raising novel legal challenges. It further examines the intellectual property implications of AI and existing legal frameworks. As AI technology advances, it is increasingly capable of creating innovative and valuable works, raising questions about who owns the rights to these creations. This paper further examines the legal framework for intellectual property rights in AI-generated works such as authorship, ownership and the potential for bias in AI decision-making. It concludes by evaluating the adequacy of current IP laws, and proposes potential solutions to address the intellectual property implications of AI-generated works in Nigeria.

Keywords: Intellectual Property, AI-Generated Works, Theories and Concepts, Authorship and Ownership, Nigeria

1. Introduction

Artificial intelligence is regarded as the most groundbreaking technology which is rapidly transforming how we live, work, and create, and the possibilities for their use are virtually endless and stands as a pivotal technological advancement.¹ AI systems can now tackle tasks previously considered exclusive to human intelligence, including problem-solving, decision making, and creative expression through advancements in machine learning, natural language processing, robotics, and data analytics.² In intellectual property, AI is a double-edged sword, driving innovation while simultaneously creating complex legal challenges, as AI continues to advance; its impact on intellectual property will only grow, necessitating a reevaluation of existing legal frameworks to address these emerging challenges. AI systems are increasingly being used to generate creative works, such as music, art, and literature, as well as to develop groundbreaking inventions and technologies. These AI-generated outputs raise critical questions about ownership, authorship, and the applicability of traditional IP frameworks.³ Artificial Intelligence means 'a branch of computer science that aims to create machines capable of performing tasks that typically require human intelligence. These tasks include learning from experience (machine learning), understanding natural language, recognizing patterns, solving problems, and making decisions.'⁴ AI works by simulating human intelligence through the use of algorithms, data, and computational power. The aim is to create machines or software capable of performing tasks that normally require human intelligence. AI deals with activities like learning, reasoning, problem-solving, perception, and understanding language.⁵ The development of AI to where it is now is a combination of the works of several scholars who had a mission to make machines to do what humans can do. The first mention of AI was in the 1950s; Alan Turing propounded a 'Turing Test. According to Eric Kleppen 'the Turing Test is a method that tests a machine's ability to exhibit human-like responses and intelligence.'⁶ In essence the test uses computers to simulate intelligent behavior and critical thinking.

In 1956 the word 'artificial intelligence' was first used at a workshop in Dartmouth and thereafter became common usage among on 'artificial intelligence' which is the first use of the word, and how it came into popular usage. Some basic components which relate to using machines to learn to function like humans are known as machine learning, natural language processing and image processing. Machine learning is regarded as a branch of AI which focuses on computers or machines imitating humans, ML was first coined in 1959 by Arthur Samuel used and developed computers machines to play chess better than humans using algorithms and models to analyze and draw inferences.⁷ Machine learning uses advanced algorithms trained to detect patterns in data, enabling the creation of models. These models can then be applied to make predictions and classify data. As a technique, machine learning uncovers previously unknown relationships within data by analyzing potentially vast datasets to identify patterns and trends that extend beyond basic statistical analysis.⁸ It drives the development of autonomous vehicles and systems capable of diagnosing medical conditions through image analysis and it is also the foundation of chat bots, predictive text, language translation applications, Netflix's personalized

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¹ Al Naqbi, H Bahrour and Z Ahmed, 'Enhancing Work Productivity through Generative Artificial Intelligence: A Comprehensive Literature Review.' Sustainability [2024], (16) (1166)

² J Kumar, 'Reshaping the Library Landscape: Exploring the Integration of Artificial Intelligence in Libraries.' *IP Indian J*

³ Oloko, 'Artificial Intelligence and Intellectual Property Rights in Nigeria' (2025) 16 (1): A Legal Discourse of the Challenges and Prospects *NAUJILJ* n. 140

⁴ *Ibid* n.141

⁵ *Ibid* n. 141

⁶ *Ibid* n.141

⁷ *Ibid* n.141

⁸ *Ibid* n. 141

show recommendations, and the curation of your social media feeds.⁹ Another is Natural Language Processing (NLP) which supports one or more specialized functions of an algorithm or system. The evaluation of NLP focuses on assessing an algorithmic system's ability to integrate language understanding and language generation. It is also utilized in detecting events across multiple languages.¹⁰

2. Theoretical Framework

Ownership of AI-Generated work is intended to benefit, not just the owner but the society as a whole. It is easy to lose sight of this broader perspective in the course of day-to-day dealings with copyright, but there is the need to keep in mind the intended purpose as the system develops. These theories, which derive their origin in law, philosophy, and economics, contemplate the key benefits that AI Ownership ought to bestow, and how such benefits may be best derived. Some of the theories which will hereunder be discussed, are generally applicable to other kinds of intellectual property.

Personhood Theory

The personhood theory is mainly penned by Immanuel Kant and Hegel. The theory contends that intellectual property is the physical manifestation of one's personhood and hence the creator must be enabled to protect the same. The personhood theory provides for moralistic grounds for protection of intellectual property; in contrast to other economically driven justifications. All intellectual property is considered to be an extension of the creator's will and by this association, such property is a part of the creator's identity and person.¹¹ Hegel's ideology propagated that the intellectual property system must be devised in a way that more expressive works get higher protection as compared to inventions such as genetic research. This is because expressive works require a higher degree of personalization, therefore making it a bigger part of the creator's personhood.¹²

Social Justice Theory

Artificial intelligence is a rapidly growing field that has the potential to impact society in profound ways. While AI has been touted as a solution to many social problems, it is important to recognize that it can also perpetuate existing inequalities and injustices. AI systems have been shown to replicate and even amplify biases related to race, gender, and other social factors. Therefore, it is essential to consider the social justice implications of AI development and deployment in order to ensure that AI benefits equitably across communities (populations, geographies). According to Judith Butler, one key way that AI can impact social justice is through biased decision-making. AI systems rely on algorithms that are trained on data, and if that data is biased, the resulting system can perpetuate that bias. For example, facial recognition technology has been shown to have higher error rates for people with darker skin tones, and this could have serious implications for individuals who are misidentified by these systems. Similarly, predictive policing algorithms have been criticized for perpetuating racial profiling and targeting minority communities, leading to unfair treatment and unjust outcomes. These examples highlight the importance of attention to the social justice implications of AI and the importance of developing more inclusive and equitable systems.

Another way in which AI impacts social justice is through the potential for job displacement. While AI has the potential to increase productivity and efficiency, it also leads to the displacement of workers in certain industries. This could have a disproportionate impact on vulnerable communities who may already be struggling to find employment. For example, research has shown that low-wage workers, women, and people of color are more likely to be displaced by automation. Therefore, it is important to consider the potential impact of AI on different communities and to develop strategies to mitigate the negative effects of automation. To address these issues, there are several steps that can be taken to ensure that AI is developed and deployed in a socially just manner. One key step is to increase transparency and accountability in AI decision-making. This can be done through the development of explainable AI systems that can provide clear explanations for their decisions, as well as through greater oversight and regulation of AI systems. Additionally, it is important to ensure that diverse perspectives are represented in the development and deployment of AI systems, including input from communities that may be impacted by these systems. Finally, it is important to invest in education and training programs that help workers adapt to the changing workforce and take advantage of new opportunities created by AI. According to Ruha Benjamin, social justice implications of AI are an important and pressing issue that must be addressed in order to ensure that the benefits of this technology are shared fairly and equitably across society. By recognizing the potential for bias and discrimination in AI systems and by taking steps to address these issues, we can help to create a more just and inclusive society. Through greater transparency, accountability, and community engagement, we can work together to build a future where AI is used to promote social justice and equality.¹³

Lockean Labour Theory

This theory posits that ownership arises from the labour and effort invested in creating something. This theory is fundamentally based on John Locke's concept that an owner possesses a natural right over the things that he produces with

⁹ *Ibid* n.141

¹⁰ *Ibid* n. 141

¹¹ I Kant, *Grounding for the Metaphysics of Morals* (3rd edn: Hackett Publishing Company, 1993) p 3

¹² KM Janhavi 'Theories of Intellectual Property', available at <https://www.theipmatters.com/post/theories-of-intellectual-property-rights> accessed 25 January 2025

¹³ M Rahman 'AI and Social Justice: Navigating the Impact of Artificial Intelligence on Society's Equity and Inclusion', available at <<https://www.labxchnage.org/library/items/lb:LabxXchange:ddc23cf2.html:1>> accessed on 26 January 2025

the help of his own labour and efforts, either physical or intellectual. John Locke's theory of natural rights generally consists of the right to life, liberty and property.¹⁴ The property in the work arises from the labour and innovation of the person creating it. Locke believed that individuals are entitled to control the fruits of their own labour. In fact, one of the justifications for intellectual property stems from the natural rights theory which considers that everyone has a natural property right on his ideas. The creation comes from the effort and creativity of its author. In other words, this theory does not make any difference between intellectual property and the traditional tangible property including the right to use, to exclude others from use and the right to transfer the owned object. Accordingly, anyone who violates the intellectual right of an author, creator or inventor is considered to commit a theft.¹⁵ This theory propounds that goods are held in common by all through a grant from God, yet every man has a property in that which he has created. The proponents believe that God grants this bounty to humanity for its enjoyment but these goods cannot be enjoyed by the human being in their natural state. The individual therefore mixes something which is his own i.e. his labour, with those goods and converts them into an enjoyable form and thereby makes it his property. His labour has added value to the goods and converted the goods from a natural state to some useful and enjoyable goods, and thereby excludes the common right of other men to use it. This theory is based on the moral foundation of honesty and fairness. Intellectual Property is therefore, a natural right of an individual who created it and any act of stealing the same without the prior licence or approval of the creator would be considered dishonest and unfair. It is basically this particular aspect of practice leads to the protection of Intellectual Property Rights. This particular justification of Intellectual Property is also found in modern laws.

3. Legal and Institutional Frameworks for Ownership of AI-Generated Works in Nigeria

A person's right to control the use of his intellectual work in Nigeria is statutory but presently, however, there are ancillary legislations that partially exist on AI in Nigeria, some of which include the Start Up Act, the Data Protection Act, the ARCON Act. The relevant institutions include Nigerian Centre for Art, Intelligence and Robotic (NCAIR) 2020 and National Information Technology Development Agency NITDA. In other words, the power of ownership of AI-Generated work is more rooted in the existing legislations in other countries. The relevant legislations that govern the ownership of AI generated works include the following:

Legal Framework

Copyright Act 2022: The Copyright Act 2022 does not refer to Generative AI, however, a close analysis seems to indicate an emphasis that could have bearing on any AI-generated work-related matter, - human effort. According to section 2(2) of the Act:¹⁶ (2) Notwithstanding the provision of subsection (1), literary, musical or artistic work shall not be eligible for copyright unless: (a) some effort has been expended on making the work, to give it an original character; and (b) the work has been fixed in any medium of expression known or later to be developed, from which it can be perceived, reproduced or otherwise communicated either directly or with the aid of any machine or device. As seen above, section 2(2)(a) of the Act¹⁷ provides that for copyright to exist in a work, the author of a literary, musical or artistic work must have expended some effort in its creation, to give it an original character. The requirement in Section 2 (2) (b) of Act¹⁸ provides that the work be fixed in any medium known or later to be developed is a proviso that directly accommodates AI-generated works. The Nigerian Courts have not had the opportunity to dissect any matters regarding generative AI, but it is foreseeable that the courts will, in determining any future cases along the line of generative AI, adopt international standards and best practices regarding this matter. The good news is, for one's copyright to subsist, the work need only be in existence (or fixed). However, to establish ownership, true publisher, originality, place of creation, and priority of creation, it is advised that creatives register their copyright with the National Copyright Commission, as section 43 of the Copyright Act¹⁹ provides that in an action for infringement of copyright, it will be presumed that: a) copyright subsists in the registered work; b) that the author on the work is the real author; c) that the publisher of the work is the real publisher; d) that the work is original - if the author is dead; and e) that it was published or produced at the place or on a date appearing on the work.

Trademarks Act 2004: Africa's most populous country, Nigeria, has the continent's largest economy and a rapidly expanding services industry, driven by rising consumer demand. This factor makes trademark registration important.²⁰ The Trade Marks Act, is the pertinent legislation that regulates trademarks in Nigeria. This Act explains the procedure for the registration of trademarks, enforcement, and remedies for the infringement of trademarks in Nigeria. These procedures are briefly analyzed below: Furthermore, the Trade Marks Act provides for assignment and transmission of registered trademarks either in connection with the goodwill of a business²¹ or not, provided that every assignment of a registered

¹⁴ A More, 'Intellectual Property', *The Stanford Encyclopedia of Philosophy* (2022) <<https://plato.stanford.edu/entries/intellectual-property/>> accessed 25 January 2025

¹⁵ C A 2022, s 30.

¹⁶ C A, 2022

¹⁷ *ibid*

¹⁸ *ibid*

¹⁹ *ibid*

²⁰ I Ufondu, 'Nigeria: A Guide To Trademark Registration In Nigeria' Benchmac & Ince [2018] available at <<https://www.mondaq.com/nigeria/trademark/757232/a-guide-to-trademark-registration-in-nigeria#:~:text=The%20laws%20governing%20trademark%20in,numeral%2C%20or%20any%20combination%20thereof>> accessed 19 May 2025.

²¹ TMA 2004, s.26

mark must be recorded at the Trade Mark Registry.²² It also provides for revocation of a trademark on application for certain grounds as well as several other stipulations that contribute to the regulation of trademarks in Nigeria.²³

Merchandise Marks Act 2004: In contrast to previous intellectual property legislation passed in Nigeria, the Merchandise Marks Act (MMA) Cap M10 LFN 2004 does not enjoy so much popularity. In order to stop the increasing number of trademark forgeries and falsifications and other related offenses, Nigeria adopted the Act, which was initially introduced in the United Kingdom to prohibit non-British nationals from selling their goods in Britain and Europe under the false pretense that they were manufactured in Britain and had a royal warrant. The Merchandise Marks Act, which was created in 1916 during the colonial era, forbade the importation and sale of goods subject to forfeiture in Nigeria and made it illegal for unauthorized individuals to forge or falsify registered trademarks. It also penalized trademark counterfeiters. It imposes heavy penalties on offenses such as applying a trademark incorrectly to goods that are similar to an existing trademark as to be intended to deceive and/or confuse the market by forging trademarks, and providing deceptive commercial descriptions of goods.²⁴ The Acts' penalties for these kinds of actions include incarceration, fines, or both, as well as the confiscation of any property or tools used in furtherance of the crime. Although the legislation has undergone multiple adjustments in the UK when it was first passed, no changes have been made since it was enacted to better reflect our changing times. The penalties that were previously in place are no longer adequate to effectively prevent the commission of the specific offenses listed in the Act and have become outdated. A person found guilty upon summary conviction in the Magistrate court, for example, faces a meager fine of one hundred naira or only six months in prison. There is an urgent need to review this legislation because one hundred Naira is nearly worthless these days.

Patent and Design Act 2004: The Patent and Designs Act makes comprehensive provisions for the registration and proprietorship of patents and designs in Nigeria and other matters ancillary thereto, as seen in the Patent and Design preamble. The current version of the Act of 1970 is contained in the 2004 compilation of Nigerian laws.²⁵ A patent is an authority or grant that confers on an inventor, the monopoly right for a set period of time, to exclude others from making, using, or selling a patented invention without consent.²⁶ The Act provides the conditions that must be met before an invention can be patentable in Nigeria.²⁷ It spells out the restrictions on areas where patents for an invention cannot be validly obtained (such as plant or animal varieties),²⁸ the procedure for patent application,²⁹ form of grant of patent,³⁰ rights conferred by patent³¹ and many more. Infringement of patent or design rights is actionable by the patentee or design owner concerned. A successful claim for any infringement of a patent in Nigeria could lead to the award of substantial damages against the infringer in addition to injunctions to prevent further infringement.³² A patent is usually valid for 20 years from the filing date of the application, but will expire if the required annual renewal fees are not paid on time.³³ Before expiration, a grace period of six months is allowed for fee payment and where an expiration or lapse of a patent takes place, it is registered and notified accordingly.

Trade Malpractices (Miscellaneous Offences) Act 2004: This is a significant legislation in Nigeria aimed at combating various forms of malpractice related to trademarks. This Act was enacted to address the rising concerns over counterfeiting, piracy, and other illicit activities that undermine the integrity of trademarks and intellectual property rights. By virtue of this Act, the Special Trade Malpractices Investigation Panel was established for the purpose of investigating whether any offence has been or is being committed, Trademark Malpractices (Miscellaneous Offences) Act.³⁴

Data Protection Act 2023: The data protection Act, 2023 deals with the Nigerian Sovereign Investment Authority as the institution that managed the funds as facilitator rather than a regulatory body of AI for data processing and fiscal incentives and technological transfer.

²² *Ibid* s. 21

²³ *Ibid* s. 11, 12 and 13

²⁴ MMA 2004, s. 18

²⁵ WIPO, 'Patents and Designs Act' WIPO [2023] <https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.wipo.int/edocs/mdocs/africa/en/ompi_inn_cas_16/ompi_inn_cas_16_t_6_k.pdf&ved=2ahUKewiA_caNxKiEAXVBXEEAHX7kA0sQFnoECC0QAQ&usq=AOvVaw1X2vZvqjK8xFZOyVORV6n->> accessed 17 May 2025.

²⁶ O Jegede & W Idiaru, 'Overview of Patent Law in Nigeria', Lexology [2021] <<https://www.lexology.com/library/detail.aspx?g=5b2fa6e1-4ae5-47e4-8687-a5f08a389a8f>> accessed 17 May 2025.

²⁷ P & D A 1970, s. 1 (1)

²⁸ P V P Act 2021, s. 1 (4)

²⁹ *Ibid* s.3

³⁰ *Ibid* s. 5.

³¹ *Ibid* s. 6 (1)

³² Pelumi Akoni, 'Patent Infringement in Nigeria- When Can it be Excused' [2018] <<https://www.mondaq.com/nigeria/patent/729250/patent-infringement-in-nigeria-when-can-it-be-excused>> accessed 17 May 2025.

³³ Pelumi Akoni, 'Patent Infringement in Nigeria- When Can it be Excused' [2018] available at <<<https://www.mondaq.com/nigeria/patent/729250/patent-infringement-in-nigeria-when-can-it-be-excused>> accessed 17 May 2025.

³⁴ TMMPA 2004, S. 1

Advertising Regulatory Council of Nigeria (ARCON) Act 2022: The Advertising Regulatory Council of Nigeria Act 2022 is basically for advertising and application of AI License before getting release to the public.

Institutional Framework

Nigerian Centre for Artificial Intelligence and Robotic (NCAIR) 2020: Nigerian Centre for Artificial Intelligence and Robotic, 2020: This is a government initiative saddled with the responsibilities of research and further understanding of application and use of emerging technologies like Artificial intelligence, deep learning, extended reality (XTVR/MR/AR), Robotics, Drones and the IoT. To actualize this AI vision NITDA was established.

National Informational Technology Development Agency (NITDA): This is the main regulatory body established by Nigeria on artificial intelligence for ensuring technologies on various areas in research and development, communication, security and networking, framework considering the Nigeria's belief in terms of value and institutions. The NITDA is saddled with responsibilities: the NITDA is to coordinate all other artificial intelligence technologies on how to carryout physical and virtual classes, train, build intelligence to serve as a research centre for private sector driven robotic and AI technology hub and research called RAIN. In a bid to achieve the above NITDA created a research department called NCAIR is mainly for the promotion, research and development of AI for Nigeria's National interests. The National Centre for Artificial Intelligence and Robotics was commissioned in Abuja on the 13th November, 2020 under the ministry of communication and digital economy for enhanced implementation of the digital economy which Artificial Intelligence is a key factor in its achievement. The NCAIR is now a digital laboratory for advancing skills development and innovations in AI in Nigeria. Thus, the establishment of NCAIR was lauded by Jake Okechukwu Effoduh in 2021 when he stated that; Nigeria can be considered an artificial intelligence champion on the African continent, being the first country in the region to institutionalize a national centre for AI and robotics; an establishment of a dedicated government institution who are fostering a knowledge-based economy and promoting the research and development of AI system in Nigeria. Nigeria is set to produce its set of national AI strategy or policy.

In spite of the early start of AI in Nigeria in Africa, there is a slow pace and development of ethical and regulatory framework of AI as Nigeria is yet to come up with a comprehensive policy on AI governance till date thereby given other African countries like Egypt, Kenya, Ghana to overtake and gap Nigeria in international global ranking on AI. However, NITDA has come up recently with some proposals aimed at enhancing the growth and a comprehensive AI governance policy and regulatory framework that will take care of Nigeria interests including ethical consideration but the dilemma Nigeria is facing is the ability to formulate a comprehensive ethical and regulatory framework that will meet up the aspirations of national interest and that of coping with the fast growing AI globally and to meet international standard for its adaptation in terms of: a) Lawfulness: Adherence to laws and regulations; b) Ethicality: Respect for ethical principles and values; c) Robustness: Technical rehabilitating while considering the social environment; d) Privacy and data governance: Ensuring data integrity and restricted access; e) Explain ability: Transparency in AI decisions; f) Social and Environmental wellbeing: Consideration of social and environmental impacts; g) Diversity and fairness: Avoidance of biases and discrimination; h) Accountability: Mechanisms to guarantee responsibility and auditability of AI systems. Thus, for Nigerian legal and regulatory framework to comprehensively meet national and international standard, they must be in conformity with the above. Unfortunately, Nigeria is still struggling to come up with such a comprehensive AI governance policy in its legislation.

World Intellectual Property Organization (WIPO) Treaties

The World Intellectual Property Organization is a specialized agency of the United Nations that focuses on the protection of intellectual property worldwide³⁵. WIPO administers several key treaties designed to harmonize and enforce IP laws across different jurisdictions. Some notable WIPO treaties include the Berne Convention for the Protection of Literary and Artistic Works³⁶, the Patent Cooperation Treaty³⁷, and the Madrid System for the International Registration of Marks³⁸. These treaties provide a framework for the protection and enforcement of IP rights, ensuring that creators and inventors can safeguard their work internationally. They facilitate cooperation between member states, helping to resolve disputes and uphold IP standards.

4. The Protection of AI-Generated Works in Some Other Jurisdictions

Other countries are also analyzing whether copyright protection should extend to works containing AI-generated material. Those that have addressed this issue so far have agreed that copyright requires human authorship. The Korean Copyright Commission and the Ministry of Culture, Sports and Tourism issued a Guide on Generative AI and Copyright in 2023, in which it explained that 'only a natural person can become an author'³⁹ and that 'copyright registration for an AI output is

³⁵ CFRN 1999 (as amended), s 46.

³⁶ Act, Paris. 'Berne Convention for the Protection of Literary and Artistic Works.' *Director* (1979).

³⁷ Lapenne, Juan. 'Patent cooperation treaty (PCT).' *J. Pat. & Trademark Off. Soc'y* 92 (2010): 192.

³⁸ Lu, Bingbin. 'Madrid System for the International Registration of Marks: An Updated Overview.' *Intellectual Property Studies* 17 (2007): 226-246.

³⁹ Ministry of Culture, Sports and Tourism & Korea Copyright Comm'n, 'A Guide on Generative AI and Copyright' at 40 [2023], https://www.copyright.or.kr/eng/doc/etc_pdf/Guide_on_Generative_AI_and_Copyright.pdf accessed 3 January 2025

impossible if a human did not contribute creatively to the expressive form.⁴⁰ The Korean guidance noted that ‘if a human had performed additional work on the AI output, such as modifying, or making additions or deletions, only the part that had undergone such change is copyrightable.’⁴¹ It also stated that an author can register a work as a compilation if he or she selected and rearranged the AI output creatively.⁴² In Japan, the Copyright Subdivision of the Cultural Council published a summary of its guidelines in May 2024 titled General Understanding on AI and Copyright in Japan.⁴³ The guidelines explained that the copyrightability of AI-generated content will be determined on a case-by-case basis, depending on the following factors: (1) the amount and content of the instructions and input prompts by the AI user; (2) the number of generation attempts; (3) the selection by the AI user from multiple output materials; and (4) any subsequent human additions and corrections to the AI-generated work.⁴⁴ In the People’s Republic of China, the Beijing Internet Court evaluated arguments in a copyright infringement case involving an AI-generated work in 2023, starting with the premise that human authorship was required for copyright protection.⁴⁵ It found that an image created using Stable Diffusion was protected under China’s copyright law,⁴⁶ and that the person who used AI to create the image was the author.⁴⁷ According to the court, the selection of over 150 prompts combined with subsequent adjustments and modifications demonstrated that the image was the result of the author’s ‘intellectual achievements,’ reflecting his personalized expression.⁴⁸ In the European Union, the majority of member states agreed, in response to a 2024 policy questionnaire on the relationship between generative AI and copyright, that current copyright principles adequately address the copyright eligibility of AI outputs and there is no need to provide new or additional protection.⁴⁹ Member states also shared the view that AI-generated content may be eligible for copyright ‘only if the human input in [the] creative process was significant.’⁵⁰ This consensus extended to the understanding that purely AI-generated works cannot be protected by copyright, as only a natural person can be considered an author.⁵¹ Based on similar reasoning, in 2024, a court in Czechia, also known as the Czech Republic, held that an AI tool cannot be the author of a copyrighted work.⁵²

In the United Kingdom, a statute predating the development of generative AI technologies protects works ‘generated by computer in circumstances such that there is no human author of the work.’⁵³ It designates the author as a ‘person by whom the arrangements necessary for the creation of the work are undertaken.’⁵⁴ In 2021, the United Kingdom Intellectual Property Office (‘UKIPO’) sought public comment on whether to change this law, in light of advancements in generative AI. Based on the lack of any case law applying this provision to AI,⁵⁵ the UKIPO concluded that ‘[i]t is unclear whether removing [protection for computer-generated works] would either promote or discourage innovation and the use of AI for the public good.’⁵⁶ It elected to leave the law in place but did not rule out future changes.⁵⁷ Since then, the UK government has initiated a new consultation on copyright and AI, including questions about prompts, computer-generated works, and outputs of AI models.⁵⁸

Several other former and current commonwealth countries, such as Hong Kong,⁵⁹ India,⁶⁰ and New Zealand,⁶¹ have enacted similar provisions, but there too it is unclear whether or how they will apply to AI-generated works. In Canada, a 2021 review of the Copyright Act acknowledged a lack of clarity concerning the authorship of an AI-generated work.⁶² While the Standing Committee on Industry, Science and Technology, which led the review, recommended that legislation should provide greater clarity, the Canadian Parliament has not yet acted on the recommendation.⁶³ In 2023, Canada relaunched the consultation process, with a comment period that closed in January 2024.⁶⁴ Similarly, in Australia, participants in 2024 consultations held by the Select Committee on Adopting Artificial Intelligence shared concerns over the lack of clarity in Australia’s copyright laws regarding the ‘extent of copyright protection, if any that is afforded to works created by humans

⁴⁰ *Ibid* n. 41.

⁴¹ *Ibid*

⁴² United States Copyright Office, Copyright and Artificial Intelligence: A Report of the Register of Copyright [2025].

⁴³ *Ibid* n.28.

⁴⁴ *Ibid* n.28

⁴⁵ *Ibid* n. 28

⁴⁶ *Ibid* n.29

⁴⁷ *Ibid* n. 29

⁴⁸ *Ibid* n. 29

⁴⁹ United States Copyright Office, Copyright and Artificial Intelligence: A Report of the Register of Copyright [2025].

⁵⁰ *Ibid* n. 29

⁵¹ *Ibid* n. 29

⁵² *Ibid* n.29

⁵³ *Ibid* n.29

⁵⁴ *Ibid* n. 30

⁵⁵ *Ibid* n. 30

⁵⁶ *Ibid* n. 30

⁵⁷ United States Copyright Office, Copyright and Artificial Intelligence: A Report of the Register of Copyright [2025].

⁵⁸ *Ibid* n. 30

⁵⁹ *Ibid* n. 30

⁶⁰ *Ibid* n. 30

⁶¹ *Ibid* n. 30

⁶² *Ibid* n.30

⁶³ *Ibid* n. 31

⁶⁴ *Ibid* n.31

with the assistance or augmentation of AI.’⁶⁵ The Select Committee in its recommendations, however, did not specifically address this issue or suggest any action. Although some level of consensus on the need for human authorship appears to be emerging, and most countries have so far continued to apply existing law, it is clear that views are still being formed. It remains to be seen how copyrightability standards will be interpreted and applied. The Office is closely monitoring developments abroad and evaluating how other countries’ evolving approaches may ultimately overlap or differ from our own.

5. Conclusion and Recommendations

The findings of this study have been presented and analyzed. The key takeaways from the research have been identified and highlighted. It is imperative to implement legal reforms and amendments that can effectively incorporate AI-generated works into the current framework of intellectual property laws. The suggested remedies involve the redefinition of authorship, modification of copyright and patent frameworks, and examination of fair use and transformative works doctrines within the realm of artificial intelligence. Collaborative ownership and attribution models that acknowledge the contributions of both human creators and AI systems present promising solutions for tackling the intricacies of content generated by artificial intelligence. The implementation of joint ownership and transparent attribution models can facilitate the fair allocation of both entitlements and incentives. The potential impact of AI on intellectual property raises important considerations for the future.

The present segment delves into the wider ramifications of the research carried out with regard to the prospective developments in the field of artificial intelligence and the legal rights associated with creative works. The results emphasise the necessity of a legal and policy framework that is both proactive and adaptable, which can effectively balance the competing interests of innovation, creativity, and the safeguarding of rights in the realm of AI-generated content. The proposed framework aims to cultivate ethical conduct, guarantee equity, openness, and liability, and encourage the judicious application of AI technologies.

The trajectory of artificial intelligence and its relationship with intellectual property is contingent upon sustained dialogues, cooperative efforts, and technological progress. Sustained monitoring, assessment, and adjustment of legal and policy frameworks will be imperative to remain abreast of the dynamic character of AI-generated content.

In order to ensure ethical implementation of artificial intelligence, several measures are necessary. It is of utmost importance to ensure that AI systems are developed and deployed in a manner that upholds ethical principles and safeguards against the development and deployment of AI systems are heavily influenced by ethical considerations, which hold significant importance. As the progression of AI technologies persists, it becomes paramount for organizations and practitioners to adhere to a collection of principles in order to guarantee the ethical and responsible design and utilization of AI. Within this particular section, we shall proffer a collection of recommendations pertaining to the ethical utilization of artificial intelligence. These recommendations are intended to serve as a guiding framework for developers, policymakers, and various other stakeholders who are actively engaged in endeavours to harness the vast potential of AI, all the while endeavouring to mitigate the inherent risks associated with its implementation. Developers are obligated to guarantee the equitable nature of AI systems, thereby preventing the perpetuation or exacerbation of pre-existing biases or discriminatory practises. It is of utmost importance to conduct a comprehensive evaluation of the training data in order to identify any potential biases that may be present. Furthermore, it is imperative to implement appropriate measures to address and mitigate these biases throughout the entire lifespan of the AI system. It is imperative that routine audits and diligent monitoring be undertaken in order to detect and address any inadvertent biases that may manifest themselves.⁶⁶ Human oversight and control play a pivotal role in guaranteeing the ethical utilization of AI systems, despite their ability to automate a wide array of tasks. It is imperative for developers to meticulously craft AI systems that possess the capability to facilitate human intervention and override decisions, particularly in domains of utmost importance such as healthcare, criminal justice, and finance. The significance of human accountability and responsibility must not be undermined in the context of autonomous AI systems.⁶⁷ In order to ensure the proper functioning and ethical use of AI systems, it is imperative to establish unambiguous lines of accountability and liability. It is imperative that both organizations and developers assume responsibility for the ethical implications associated with their AI technologies. In instances wherein AI systems engender deleterious consequences or transgress ethical norms, it is imperative that mechanisms are established to facilitate redress, reparation, and remedial measures.⁶⁸

The imperative of continuous monitoring and evaluation in the realm of AI systems cannot be overstated. It is of utmost importance that these systems are subjected to ongoing scrutiny in order to discern any potential ethical quandaries that may arise and to gauge their impact on society. The aforementioned encompasses the continuous evaluation of partiality, equitability, and the inadvertent ramifications associated with the implementation of artificial intelligence. Regular audits

⁶⁵ *Ibid* n. 31

⁶⁶ ID Raji, I. D and J Buolamwini, ‘Actionable auditing: Investigating the impact of publicly naming biased performance results of commercial AI products’, A Paper delivered at the AAAI/ACM Conference on AI, Ethics, and Society on 27th January, 2019, p 429

⁶⁷ F Santoni de Sio *et al*, ‘Meaningful human control over autonomous systems: A philosophical account’ [2018] (5) *Frontiers in Robotics and AI Journal*, 15

⁶⁸ M Ananny and K Crawford, ‘Seeing Without Knowing: Limitations of the Transparency Ideal and its Application to Algorithmic Accountability’ [2016] (20) (3) *New Media & Society Journal*, 973

and independent evaluations play a pivotal role in ensuring adherence to ethical standards and affording valuable prospects for enhancement.⁶⁹ Collaboration and the adoption of multidisciplinary approaches are imperative when it comes to tackling the ethical quandaries associated with artificial intelligence. This necessitates the active involvement and cooperation of a wide array of stakeholders, encompassing technologists, policymakers, ethicists, and the communities directly impacted by these advancements. The utilization of multidisciplinary approaches has the potential to engender a more comprehensive comprehension of ethical quandaries, facilitate the cultivation of inclusive decision-making processes, and ultimately culminate in the development of AI systems that are more resilient and accountable in nature.⁷⁰ In the realm of public engagement and education, it is imperative that concerted efforts are undertaken to actively involve the general populace and enhance their understanding of the capabilities, limitations, and ethical ramifications of artificial intelligence systems. The acquisition of knowledge through education, coupled with the effective exchange of ideas in public discourse, possesses the remarkable ability to endow individuals with the capacity to make well-informed decisions and to ensure that organizations are held responsible for their actions. The integration of ethical considerations into educational curricula and professional training programmes for AI practitioners is imperative.

In order to ensure the responsible and ethical development and deployment of artificial intelligence, it is imperative that governments, industry bodies, and professional organizations engage in a collaborative effort to establish unambiguous ethical guidelines and regulations. The aforementioned guidelines ought to be crafted in a manner that aligns with the prevailing societal values and effectively tackles the prospective risks and ethical quandaries that are inherently intertwined with the utilization of artificial intelligence technologies. It is imperative to regularly engage in updates and revisions in order to effectively adapt to the ever-changing technological landscapes.⁷¹ The cultivation of ethical AI practices is of utmost importance as it serves to cultivate a sense of trust, mitigate potential risks, and fully exploit the vast capabilities of AI technology while simultaneously upholding the rights and dignity of both individuals and communities.⁷² Based on the ethical implications and policy considerations that have been deliberated upon, this section puts forth suggestions for promoting ethical practices in the field of AI.

⁶⁹ *ibid*

⁷⁰ *ibid*

⁷¹ *ibid*

⁷² *ibid*