AI-GENERATED CONTENT AND COPYRIGHT OWNERSHIP: LEGAL FRAMEWORKS FOR INTELLECTUAL PROPERTY PROTECTION IN THE DIGITAL AGE

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A PROJECT WRITTEN AND SUBMITTED TO THE FACULTY OF LAW AND THE POSTGRADUATE SCHOOL, UNIVERSITY OF BENIN BENIN CITY, EDO STATE, NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS IN LAW (LL.M) OF THE UNIVERSITY OF BENIN, BENIN CITY, EDO STATE.

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CERTIFICATION

I, Friday Ihimhinre OSHODIN (PG/LAW9201996), hereby certify that apart from references made to other people's works as duly acknowledged herein, this entire study is the product of my personal research, and it has neither in part nor in whole been presented for another degree elsewhere.

.....
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APPROVAL

We certify that this project work was written and completed by Friday Ihimhinre OSHODIN (PG/LAW9201996) in partial fulfillment of the requirement for the award of Master in Laws (LL.M) Degree of the University of Benin.

Prof. N. E. Ojukwu-Ogba **……**
Project Supervisor **Signature & Date**

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Prof. Bright Bazuaye **……..**
Dean, Faculty of Law **Signature & Date**

DEDICATION

This project is dedicated to God Almighty, whose grace, strength, and guidance sustained me throughout my academic journey.

I also dedicate this work to the loving memory of my late mother, Mrs. Comfort Ebadoloyi Oshodin, who did everything humanly possible to ensure that I received a formal education.

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TABLE OF CASES

TABLE OF STATUTES

Copyright Act 1970, Cap 68, Laws of the Federation of Nigeria.

Copyright Act 1988 (as amended), Cap C28, Laws of the Federation of Nigeria 2004.

Copyright Act 2022 (Nigeria).

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LIST OF ABBREVIATIONS

AI – Artificial Intelligence

AGI – Artificial General Intelligence

ARIPO – African Regional Intellectual Property Organization

EU – European Union

GANs – Generative Adversarial Networks

GPT – Generative Pre-trained Transformer

IP – Intellectual Property

OAPI – Organisation Africaine de la Propriété Intellectuelle (African Intellectual Property Organization)

TRIPS – Trade-Related Aspects of Intellectual Property Rights

UK – United Kingdom

UNESCO – United Nations Educational, Scientific and Cultural Organization

USA – United States of America

WCO – World Customs Organization

WCT – WIPO Copyright Treaty

WIPO – World Intellectual Property Organization

WTO – World Trade Organization

TABLE OF CONTENTS

ABSTRACT

The rapid development of artificial intelligence (AI), especially generative technologies that can create literary, artistic, musical, and audiovisual works with minimal or no human involvement, has posed significant challenges to the fundamental principles of copyright law. Traditional copyright frameworks are based on human creativity, originality, and identifiable authorship. However, the rise of AI-generated content in the digital age or era has muddled these concepts and introduced complex legal dilemmas surrounding copyright validity, authorship attribution, and ownership rights. These issues are increasingly pertinent worldwide and are particularly critical in Nigeria, where the digital innovation landscape is rapidly evolving alongside the implementation of the Copyright Act 2022, which does not explicitly address fully autonomous AI-generated works. This dissertation aims to explore the legal framework governing copyright ownership of AI-generated content in the digital age, with a distinct emphasis on the Nigerian legal context. The research evaluates whether existing provisions under the Nigerian Copyright Act 2022 sufficiently tackle problems related to authorship, originality, and ownership regarding AI-generated works. The study's objectives include uncovering conceptual and doctrinal deficiencies in the current legal structure, assessing the operational efficacy of copyright protection and enforcement mechanisms, and analyzing the broader legal, socio-economic, and policy implications of creativity driven by AI. Additionally, the research intends to glean insights from international and comparative legal systems to suggest potential strategies for future legal and policy reforms in Nigeria. To meet these aims, the research employs a doctrinal legal methodology that involves a comprehensive analysis of primary legal sources, which include international copyright treaties, regional agreements, national laws, and relevant judicial rulings. It scrutinizes key international agreements like the Berne Convention, the TRIPS Agreement, and the WIPO Internet Treaties to outline the global normative standards for copyright protection, while also critically assessing the Nigerian Copyright Act 2022 as the chief or main domestic legal text. Furthermore, secondary sources such as academic books, peer-reviewed journal articles, policy documents, and reports from international and regional organizations are utilized to provide scholarly and contextual insights on the matter. The study additionally adopts a comparative legal perspective by looking at how various jurisdictions, including the United States, the United Kingdom, the European Union, and certain Asian and African nations, have tackled the copyright challenges associated with AI-generated content. This comparative examination facilitates an assessment of the diverse legal responses to authorship and ownership of AI-generated works and helps identify best practices that could be relevant to Nigeria. An analytical and evaluative method is employed to assess the sufficiency of the current legal and institutional frameworks, particularly in relation to enforcement issues in the digital landscape. In summary, the dissertation offers a thorough legal analysis of AI-generated content and copyright ownership, concentrating on the effectiveness of current legal frameworks and methodologies. It establishes a groundwork for informed legal reform by identifying critical issues and providing insights aimed at achieving a balanced copyright system that fosters technological innovation while protecting intellectual property rights in the digital age.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The advent of Artificial Intelligence (AI) has significantly reshaped how works are produced and shared in the present digital age. AI technologies can now autonomously create any content, such as text, music, visual art, and software, with little or no human involvement. Conversely, conventional copyright law is rooted in the concepts of human authorship and originality. For example, the Nigerian Copyright Act of 2022 defines "author" in a manner that centers on human creators, raising questions about whether works generated by AI can be deemed protectable by copyright.

The global discourse surrounding this issue remains unresolved. The United States Copyright Office maintains that works lacking human authorship are not eligible for copyright protection, while the United Kingdom (UK)'s Copyright, Designs and Patents Act, 1988 offers minimal recognition for computer-generated works, attributing authorship to the individual responsible for the arrangements when no human author can be identified. Additionally, international copyright treaties, such as the Berne Convention for the Protection of Literary and Artistic Works (1886 as amended) and the World Intellectual Property Organization. (WIPO) Copyright Treaty (1996), do not address the issue of AI authorship.

With AI-generated content becoming increasingly economically valuable, the lack of a definitive legal framework creates risks related to ownership, investment, and the enforcement of intellectual property rights. In Nigeria, where digital innovation is swiftly advancing, it is crucial to tackle this gap or legal ambiguity.

1.2 Statement of the Problem

The rise of AI-generated works brings forth significant legal challenges that current copyright frameworks are ill-equipped to resolve:

1) **Authorship** – If an AI independently creates a work, who is recognized as the author: the programmer, the user, or is there no author at all?
2) **Originality** – Do machine-produced outputs meet the previously established thresholds of human creativity and skill necessary for copyright protection?
3) **Ownership Conflicts** – The absence of defined authorship may lead to disputes over ownership between developers, users, and third parties.
4) Legislative Gaps – Nigerian copyright laws do not address AI-generated content, potentially placing the country at a disadvantage in the global knowledge economy or digital age.

This research therefore, investigates whether Nigeria's copyright legislation is sufficient for regulating AI-generated works and identifies necessary reforms to align it with international standards.

1.3 Research Questions

1) How are authorship and originality characterized under Nigerian and international copyright laws, and do these distinctions accommodate AI-generated creations?
2) What frameworks have other jurisdictions (e.g., the United Kingdom (UK), United States of America (USA), European Union (EU) implemented for dealing with copyright in AI-generated works?
3) To what extent does the Nigerian Copyright Act 2022 address the challenges associated with AI authorship?

4) What changes are necessary for Nigeria to ensure robust copyright protection in the age of AI?

1.4 Aim and Objectives of the Study

Aim:

To thoroughly analyze the challenges around copyright ownership of AI-generated content and suggest appropriate frameworks for intellectual property protection in Nigeria and within the evolving digital context.

Objectives:

1) To evaluate the notions of authorship and originality under current copyright law.
2) To explore how various jurisdictions worldwide manage AI-generated content.
3) To assess whether Nigeria's Copyright Act 2022 effectively regulates AI-generated works.
4) To recommend legal and policy reforms for the copyright protection of AI-generated content.

1.5 Scope and Limitations of the Study

This study will concentrate on copyright law and AI-generated content. Although references to other elements of intellectual property (like patents and trademarks) may be made for context, they will not be the primary focus. The research will mainly address the Nigerian perspective while drawing comparative insights from jurisdictions such as the United States, the United Kingdom, and the European Union. Practical case studies will be sourced from publicly available records.

1.6 Significance of the Study

This research is significant for several reasons:

1) **Theoretical Contribution**: It enriches the jurisprudential discourse surrounding authorship and originality in the face of non-human creativity.
2) **Policy Relevance:** It provides a useful framework for legislators and policymakers to update Nigeria's copyright system.
3) **Practical Importance**: It offers guidance to creators, investors, and AI users regarding their rights and responsibilities concerning AI-generated works.
4) **Global Relevance**: By engaging with international treaties and exploring comparative approaches, it situates Nigeria within the broader global conversations regarding intellectual property protection in the digital economy.

1.7 **Methodology**

The research methodology will utilize the doctrinal legal approach, incorporating both primary sources (such as statutes, treaties, and case law) and secondary sources (including textbooks, journal articles, reports, and online databases). A comparative analysis will also be conducted to scrutinize how other nations regulate AI-generated works to inform suitable reform recommendations for Nigeria.

1.8 Chapter Analysis

This research is structured into five chapters. Chapter 1 lays the foundation for the entire study, organizing essential elements that shape the research. It provides the study's background, identifies the problem statement, outlines its aim and objectives, articulates research questions, and presents the scope, significance, and methodology. Additionally, it addresses the encountered limitations and offers a brief overview of the forthcoming chapters. These components collectively lay the groundwork for the inquiry and steer the analytical focus of the research. Chapter 2 lays out the

conceptual and theoretical underpinnings of the study. It is crucial to comprehend concepts such as copyright, originality, authorship, ownership, artificial intelligence, and generative technologies to effectively position the discussion of AI-generated content within modern copyright law. By defining these foundational concepts, this chapter illuminates how advancements in technology and the digital era have transformed traditional legal principles.

The chapter also traces the historical development of copyright law, referencing significant legal theories that have shaped ideas of authorship and originality. It considers both Nigerian and global perspectives, emphasizing how various jurisdictions perceive creativity and legal ownership amid growing technological autonomy. Moreover, this chapter reviews pertinent literature and empirical research that illuminate emerging trends, academic discussions, and gaps in regulating AI-generated works. This literature review strengthens the analytical framework for subsequent chapters, particularly concerning the evaluation of the Nigerian Copyright Act 2022 and its effectiveness in addressing challenges posed by AI creativity.

For clarity, Chapter 2 is divided into three main sections. Section 2.1 offers definitions of key terms. Section 2.2 explores the historical and theoretical framework of copyright. Section 2.3 provides a literature review alongside insights from existing studies, all of which create a basis for further analysis of legal frameworks and challenges associated with AI-driven creativity in later chapters. Chapter 3 investigates the legal and institutional structures governing copyright protection both internationally and nationally. Understanding these frameworks is vital for evaluating how existing laws confront the innovative challenges introduced by artificial intelligence and generative technologies. As copyright is influenced by global

agreements and transnational entities, this chapter places Nigeria within a larger international context before examining its domestic legal system. The discussion begins with an overview of the principal international treaties that form the bedrock of global copyright law, including the Berne Convention, the Universal Copyright Convention, the Rome Convention, the TRIPS Agreement, and the WIPO Internet Treaties. These treaties shape domestic legislation and enforcement practices. The chapter subsequently delves into Nigeria's key legal document—the Copyright Act 2022—underlining its structure, scope, and relevance to current digital and technological contexts.

Beyond legislative texts, copyright protection is formed by institutional actors at international, regional, and national levels. Thus, the chapter also investigates the roles of organizations such as World Intellectual Property Organization (WIPO), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Trade Organization (WTO), World Customs Organization (WCO), and Interpol in influencing global copyright governance, along with regional bodies like African Regional Intellectual Property Organization (ARIPO), Organisation Africaine de la Propriété Intellectuelle (French for "African Intellectual Property Organization") (OAPI), and European Union (EU) institutions that affect emerging norms regarding digital enforcement and technological protection. The chapter concludes with an examination of Nigeria's institutional frameworks, including the Nigerian Copyright Commission, Collective Management Organizations, law enforcement, and policy institutions.

Overall, this chapter is structured into three key sections: Section 3.1 evaluates international and Nigerian legal frameworks. Section 3.2 reviews domestic legislation

under the Copyright Act 2022. Section 3.3 discusses institutional mechanisms supporting copyright protection at various levels. Together, these analyses contribute to a comprehensive understanding of the governance context in which questions regarding AI-generated content, ownership, and enforcement must be addressed in subsequent chapters. Chapter 4 centers around the core topic of the dissertation: the legal status, ownership, and protection of AI-generated content under current copyright law, with a focused assessment of the Nigerian Copyright Act 2022. As artificial intelligence increasingly performs creative tasks previously requiring human input—such as writing, composing music, generating images, and producing audiovisual material—the delineation of authorship and ownership has become contentious, necessitating a reevaluation of traditional copyright principles predicated on human creativity.

The chapter starts by evaluating Nigerian law to determine if the Copyright Act 2022 suitably accommodates AI-generated works or reveals interpretative and regulatory shortcomings. It explores issues such as the necessity for human authorship, originality standards, and uncertainty surrounding machine-generated expression within the context of evolving technological realities. Furthermore, it considers the broader socio-economic effects of AI-generated content, particularly on creative industries, labor markets, innovation ecosystems, and cultural production both in Nigeria and internationally. This chapter also addresses the variety of challenges associated with AI-driven creativity, including doctrinal ambiguities, definitional uncertainties, enforcement issues in digital spaces, and ethical or policy dilemmas surrounding attribution, transparency, ownership, and accountability. Since copyright law has historically relied on the concept of human creativity, the

emergence of autonomous digital systems challenges these longstanding assumptions. To provide a comprehensive examination, the chapter includes comparative perspectives, analyzing how jurisdictions such as the United States, the United Kingdom, the European Union, and key Asian nations like China, Japan, and India address these issues. Other African viewpoints are also included to position Nigeria's stance within broader continental developments. The chapter further explores ongoing discussions within WIPO and the global copyright community regarding suitable regulatory models for AI-generated content.

For clarity, Chapter 4 is organized into three main segments: Section 4.1 discusses ownership concerns under the Nigerian Copyright Act 2022. Section 4.2 investigates the challenges, limitations, and policy issues related to AI-generated works. Section 4.3 offers an international comparative analysis, highlighting best practices that could inform Nigeria’s future legal adjustments. Collectively, these discussions pave the way for the final chapter, which consolidates findings and proposes actionable recommendations for legal reform and policy development. Finally, Chapter 5 concludes the study by synthesizing key findings and linking the principal arguments presented in the preceding chapters, while also proposing recommendations for enhancing Nigeria’s legal and institutional responses to challenges posed by AI-generated content. Having analyzed the conceptual foundations, legal frameworks, and comparative viewpoints on copyright issues relating to artificial intelligence, it is crucial to summarize the research insights and outline its contributions to scholarship and policy.

Commencing with a summary of the main findings from the Nigerian Copyright Act 2022 analysis, the doctrinal discussions on authorship and originality, and the

comparative evaluation of international approaches to AI-generated works, the chapter clarifies how well current Nigerian law accommodates or neglects the issue of non-human creativity in the digital era.

Following the summary, the chapter presents practical and policy-related recommendations aimed at strengthening the legal framework, closing identified gaps, and guiding future reforms. These suggestions draw from effective practices elsewhere, emerging policy trends within WIPO and other international bodies, and Nigeria's specific socio-economic and institutional backdrop.

The chapter also highlights the study's contributions to existing knowledge, showcasing how the research enhances legal scholarship on AI and copyright, introduces fresh analytical angles on authorship and ownership, and offers direction for future legislative or judicial engagement with AI-related disputes.

To maintain continuity for scholars and policymakers, the chapter suggests areas for further research, acknowledging that AI technologies are rapidly evolving and will continue to generate complex legal and ethical inquiries.

In conclusion, the chapter emphasizes the study's significance and relevance in the ongoing evolution of copyright law in a progressively digital and algorithm-driven landscape.

Having introduced this study sufficiently, we wish to at this stage, move to chapter 2 for the conceptual, theoretical frameworks and literature review.

CHAPTER TWO

CONCEPTUAL/THEORETICAL FRAMEWORKS AND LITERATURE REVIEW

2.1 CONCEPTUAL CLARIFICATIONS

2.1.1 Definition of Terms

a) Copyright

Copyright is a legal entitlement that allows creators of original works—literary, artistic, musical, and other forms—to exercise exclusive authority over the use and dissemination of these creations for a designated timeframe.[1] This legal framework recognizes the economic and moral worth of intellectual creations that merit protection. According to the Nigerian Copyright Act of 2022, copyright is defined as the exclusive right to govern specific actions related to a work, such as reproduction, publication, performance, and adaptation, within Nigeria.[2]

On the international front, the Berne Convention provides that copyright protection automatically applies when a work is created, without necessitating formal registration.[3] The primary goals of copyright law are to motivate creativity by enabling creators to profit from their works, and to weigh these private rights against the public's interest in accessing and building upon creative outputs.[4] Generally, copyright protection focuses on the manner of expressing ideas rather than the ideas themselves, a distinction referred to as the idea-expression dichotomy.[5]

1. William Cornish, David Llewelyn and Tanya Aplin, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (8th edn, Sweet & Maxwell 2013) 401.
2. Copyright Act 2022, s 6.
3. Berne Convention for the Protection of Literary and Artistic Works (Paris Act 1971), art 5(2).
4. Lionel Bently and Brad Sherman, *Intellectual Property Law* (4th edn, Oxford University Press 2014) 33-35.
5. Paul Goldstein and P Bernt Hugenholtz, *International Copyright: Principles, Law, and Practice* (4th edn, Oxford University Press 2019) 228.

b) Originality

Originality is a critical criterion for copyright eligibility, functioning as a filter that separates protectable works from those available in the public domain.[6] This notion of originality varies by jurisdiction and has undergone significant evolution. Essentially, a work is considered original if it stems from the author and shows some minimal level of creativity or intellectual effort.[7]

While Nigerian copyright law does not explicitly define originality in the Copyright Act 2022, it is implied through the Act's safeguarding of "original literary, musical or artistic works," indicating that authorship must originate from the creator, not be copied.[8] Historically, Nigerian courts have embraced the "sweat of the brow" doctrine, which focuses on the effort put into creating a work, though this approach has faced criticism in the era of digital creation.[9]

In contrast, the United States adheres to a stricter originality standard, necessitating independent creation and at least a slight degree of creativity. The pivotal case of ***Feist Publications, Inc. v. Rural Telephone Service Co***.[10] determined that mere effort or labor is inadequate for copyright safeguard; instead, the work must exhibit some minimal creative element. The UK enforces a comparable but slightly less rigorous standard, where the work is required to originate from the author, necessitating sufficient skill, judgment, and labor.[11]

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6. Robert P Merges, Peter S Menell and Mark A Lemley, ***Intellectual Property in the New Technological Age*** (7th edn, Wolters Kluwer 2016) 391.
7. Estelle Derclaye, *'What Is the Subject Matter of Intellectual Property?*' in Rochelle C Dreyfuss and Justine Pila (eds), *The Oxford Handbook of Intellectual Property Law* (Oxford University Press 2018) 106.
8. Copyright Act 2022, s 1(2)(a).
9. Dele Olowu, *An Integrative Rights-Based Approach to Human Development in Africa* (2009) Office of the United Nations High Commissioner for Human Rights 45.
10. *499 US 340 (1991).*
11. *Ladbroke (Football) Ltd v William Hill (Football) Ltd [1964] 1 WLR 273 (HL).*

The European Union's directives and Court of Justice interpretations propose an "author's own intellectual creation" criterion, stressing that originality is rooted in the author's creative choices and personal imprint on the work.[12] This approach applies to various types of outputs, including photographic content and database designs.

c) **Authorship**

Authorship pertains to the legal recognition of an individual as the creator of a copyrighted work, encompassing associated rights and obligations.[13] Conventional copyright law assumes authors are natural persons who engage their intellectual faculties and creativity to produce original works. Typically, the author is deemed the initial copyright holder unless the work results from employment or a commission that indicates otherwise.[14]

According to ***Section 10 of the Nigerian Copyright Act 2022***, an author is identified regarding specific work categories: for literary, artistic, or musical works, it is the creator; for films, it's the party responsible for the film's arrangement; for sound recordings, the producer; and for broadcasts, the broadcasting organization.[15] This description presumes human involvement and omits considerations for non-human creators.

The idea of authorship encompasses both economic and moral aspects. Economic rights empower authors to commercially exploit their works through reproduction, distribution, and adaptations.[16] Moral rights, recognized in jurisdictions adhering to the Berne Convention, including Nigeria, safeguard the author's personal ties to the

12. *Case C-508 Infopaq International AS v Danske Dagblades Forening [2009] ECR I-6569.*
13. Jane C Ginsburg, *'The Concept of Authorship in Comparative Copyright Law'* (2003) 52 *DePaul Law Review 1063, 1064.*
14. Copyright Act 2022, s 11(1).
15. Copyright Act 2022, s 10.
16. Copyright Act 2022, ss 6-9.

work, including the right to attribution (paternity) and the right to contest derogatory treatment of the work (integrity).[17]

Authorship becomes particularly intricate in collaborative works, works made for hire, and increasingly, when technological assistance is involved. Joint authorship occurs when multiple individuals collaborate aiming to merge their contributions into a unified whole; here, each author would typically hold an undivided copyright share.[18] Works made for hire introduce another exception to the default rule that the creator is the author, whereby the employer may be identified as the author and initial copyright holder in employment contexts.[19]

d) Ownership

Ownership of copyright signifies the ensemble of exclusive rights associated with a protected work, encompassing rights to reproduce, distribute, publicly perform, display, and create derivative works.[20] Though ownership and authorship often overlap, they represent distinct concepts, and ownership may be transferred or assigned independently from the moral rights retained by the author.[21]

Under Section 11(1) of the Nigerian Copyright Act 2022, the work's author is entitled to copyright, subject to certain stipulations.[22] Ownership may, however, be altered through contractual agreements, assignments, or licensing. A copyright assignment

17. Berne Convention (n 3) art 6bis; Copyright Act 2022, s 12.
18. *Cala Homes (South) Ltd v Alfred McAlpine Homes East Ltd [1995] FSR 818*.
19. Paul Goldstein, *Goldstein on* Copyright (3rd edn, Wolters Kluwer 2014) § 4.1.
20. Ibid.
21. Lionel Bently and others, *Intellectual Property Law (5th edn, Oxford University Press 2018) 120-122*.
22. Copyright Act 2022, s 11(1).

involves a complete transfer of ownership from the author to someone else, while a license permits usage under defined terms, preserving the author's ownership.[23]

In Nigerian employment scenarios, the norm is that when a work is produced during employment, the employer is the initial copyright owner unless otherwise agreed.[24] This principle mirrors the economic reality that the employer invests resources into facilitating the work's creation and should benefit accordingly.

The distinction between ownership and authorship is particularly pronounced when considering AI-generated outputs. If an AI produces a work with limited human involvement, questions arise regarding whether the programmer, the user prompting the AI, the one training the AI, or the entity owning the AI should hold ownership claims.[25] Conversely, some argue that works generated by AI should instantly enter public domain, allowing unrestricted access for everyone.[26]

e) Artificial Intelligence

Artificial Intelligence (AI) pertains to computer systems designed to undertake tasks ordinarily necessitating human intelligence, including learning, reasoning, problem-solving, perception, and creative generation.[27] This term encompasses a wide range of technologies, from narrow or weak AI focused on specific functions to the hypothetical concept of artificial general intelligence (AGI), which would replicate or surpass human cognitive abilities across all areas.[28]

23. Hugh Laddie and others, *The Modern Law of Copyright and Designs (4th edn, LexisNexis 2011) vol 1,* para 5.01.
24. Copyright Act 2022, s 11(2)(a).
25. Pamela Samuelson, *'Allocating Ownership Rights in Computer-Generated Works'* (1985) 47 University of Pittsburgh Law Review 1185, 1200-1205.
26. Jane C Ginsburg and Luke A Budiardjo, *'Authors and Machines'* (2019) 34 *Berkeley Technology Law Journal* 343, 394-398.
27. Stuart Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach* (*4th edn, Pearson 2020)* 1-2.
28. Nick Bostrom, *Intelligence: Paths,* Dangers, Strategies (Oxford University Press 2014) 22-26.

In this study, AI primarily refers to machine learning systems that can produce creative outputs. Contemporary AI systems use various mechanisms, such as rule-based systems, neural networks, and deep learning algorithms, to analyze vast datasets, identify patterns, and generate new content.[29] By being trained on established works, these systems can adopt and replicate styles, formats, and conventions, allowing them to create outputs that might closely resemble those crafted by humans.[30]

The legal and philosophical question of whether AI systems embody creativity, consciousness, or intent remains a contested issue.[31] From a functional standpoint, if an AI system creates outputs perceived as creative when produced by a human, the output's generation process may become less critical than the output's nature itself. Nevertheless, traditional copyright principles stress the mental processes and creative decisions of human authors, hinting that AI-generated works may not meet standard criteria for protection.[32]

f) Generative Technologies

Generative technologies represent AI systems engineered specifically to create novel content, which includes text, images, music, videos, and code.[33] These systems operate using advanced algorithms—particularly generative adversarial networks

29. Ian Goodfellow, Yoshua Bengio and Aaron Courville, *Deep Learning (MIT Press 2016)* 1-25.
30. Marcus Du Sautoy, *The Creativity Code: How AI Is Learning to Write, Paint and Think (Fourth Estate 2019)* 45-67.
31. Margaret A Boden, *AI: Its Nature and Future* (Oxford University Press 2016) 89-103.
32. Annemarie Bridy, *'The Evolution of Authorship: Work Made by Code'* (2016) 39 *Columbia Journal of Law & the Arts* 395, 398-402.
33. Ryan Abbott, *The Reasonable Robot: Artificial Intelligence and the Law* (*Cambridge University Press* 2020) 115-120.

(GANs), transformer models, and diffusion models—that generate outputs based on training data and user inputs or prompts.[34]

Notable examples comprise large language models like GPT (Generative Pre-trained Transformer), which generate human-like text; DALL-E and Midjourney that create images from text descriptions; and music composition tools like AIVA and Amper Music.[35] These systems learn patterns from extensive datasets, using these patterns to create engaging outputs similar to the source material's style and structure.[36]

The function of generative technologies encompasses several phases: data collection and training, where systems learn from existing works; inference, where the system produces new outputs based on prompts; and refinement, where outputs may be enhanced through human feedback or additional prompts.[37] Human involvement varies from minimal, where users accept the first output, to extensive collaboration involving detailed prompts, output curation, and creative decisions regarding the usage of generated content.[38]

From a copyright viewpoint, generative technologies prompt inquiries concerning creativity's essence, human agency's role, and the proper distributions of rights.[39] If a user provides a detailed prompt demanding creative input and subsequently selects and revises the AI's output, their contribution may fulfill human authorship requirements. Conversely, if user intervention is limited, the output may be viewed as

34. Ian Goodfellow and others, *'Generative Adversarial Networks'* (2014) *Advances in Neural Information Processing Systems* 2672.
35. Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (*WW Norton & Company 2014) 87-92*.
36. Andres Guadamuz, *'Artificial Intelligence and Copyright'* (2017) WIPO Magazine, October 2017.
37. Jenna Burrell, 'How the Machine "Thinks": Understanding Opacity in Machine Learning Algorithms' (2016) 3 Big Data & Society 1, 3-5.
38. James Grimmelmann, *'There's No Such Thing as a Computer-Authored Work—And It's a Good Thing, Too'* (2016) 39 Columbia Journal of Law & the Arts 403, 405-410.
39. Carys J Craig, *'Reconstructing the Author-Self: Some Feminist Lessons for Copyright Law'* (2007) 15 American University Journal of Gender, Social Policy & the Law 207, 230-235.

predominantly machine-generated, potentially excluding it from copyright protection.[40]

g) Digital Age

The digital age, also known as the information age or computer age, designates the contemporary era marked by a quick transition from traditional industrial practices to an information technology-based economy.[41] This period, generally recognized as beginning in the late 20th century with the rise of personal computers and the internet, has drastically reformed the production, distribution, and consumption of creative works.[42]

Within copyright law, the digital age introduces both prospects and challenges. Digital technologies facilitate unparalleled ease of reproduction and distribution, allowing works to be perfectly copied and shared globally at minimal expense.[43] This ease of copying has undermined traditional copyright enforcement frameworks designed for physical media. Simultaneously, digital tools have democratized creativity, empowering individuals without access to conventional publishing or production infrastructures to create and share works with a global audience.[44]

The digital age has also ushered in novel forms of creative expressions, ranging from software and databases to multimedia works and interactive content, necessitating copyright law adaptations to protect these innovations.[45] International agreements like the WIPO Copyright Treaty (1996) and the WIPO Performances and Phonograms

40. Shlomit Yanisky-Ravid, *'Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era*' (2017) 53 *Stanford Technology Law Review* 659, 680-685.
41. Manuel Castells, *The Rise of the Network Society (2nd edn, Wiley-Blackwell 2010) 1-5.*
42. *Lawrence Lessig, Code: And Other Laws of Cyberspace, Version 2.0 (Basic Books 2006) 1-8.*
43. *Jessica Litman, Digital Copyright (Prometheus Books 2001) 22-28.*
44. *Yochai Benkler, The Wealth of Networks: How Social Production Transforms Markets and Freedom (Yale University Press 2006) 52-90.*
45. *Pamela Samuelson, 'The Copyright Grab' (1996) 4 Wired 134.*

Treaty (1996) were established to address the digital challenges, including provisions for technological protection measures and rights management information.[46]

In relation to this study, the digital age is particularly relevant due to the emergence and proliferation of AI technologies capable of generating creative outputs.[47] The blending of AI with digital distribution establishes a distinctive environment where machines can produce and disseminate creative content at unprecedented scales, challenging foundational assumptions about human authorship that underpin copyright law.[48]

2.2 Theoretical and Historical Foundation

2.2.1 Historical development of copyright law

The development of copyright law mirrors the evolving social, economic, and technological contexts that shape creators, users, and intermediaries' relationships regarding creative works' production and dissemination.[49] Understanding this historical pathway is crucial for tackling the modern challenges posed by AI-generated content.

Early Beginnings and the Printing Press

The origins of copyright protection can be traced back to Johannes Gutenberg's invention of the printing press in the mid-15th century.[50] Before this technological advancement, replicating works through manual copying limited dissemination and rendered unauthorized copying economically unfeasible. The printing press

46. WIPO Copyright Treaty (adopted 20 December 1996, entered into force 6 March 2002) arts 11-12.
47. Terence C Poon, *'Independence and Originality in Copyright and AI-Generated Works'* (2020) 15 *Journal of Intellectual Property Law & Practice* 588, 589-590.
48. Ryan Abbott, *'I Think, Therefore I Invent: Creative Computers and the Future of Patent Law'* (2016) 57 *Boston College Law Review* 1079, 1082-1085.
49. Mark Rose, *Authors and Owners: The Invention of Copyright* (Harvard University Press 1993) 1-9.
50. Elizabeth L Eisenstein, *The Printing Press as an Agent of Change (Cambridge University Press* 1979), vol. 1, 3-12.

transformed content generation by enabling fast and cost-effective reproduction of texts, thus creating both opportunities for broader knowledge-sharing and concerns over unauthorized copying.[51]

Early copyright-like privileges appeared in the form of royal grants or licenses for printers, mainly intended to control information spread and enforce censorship rather than to safeguard authors' interests.[52] In England, the Stationers' Company—a printers' and booksellers' guild formed in 1557—was awarded monopoly rights to printing, requiring members to register titles to establish exclusive printing rights for various works.[53] This system served the government's interest in regulating dissenting and subversive publications while benefiting members of the printing industry economically.[54]

The Statute of Anne (1710)

The modern framework of copyright, acknowledging authors rather than publishers as the rightful copyright holders, emerged with the introduction of the Statute of Anne in 1710, formally entitled "An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of such Copies."[55] This pioneering legislation is recognized as the inaugural copyright statute, affirming that authors are the original copyright holders and setting a limited protection duration of 14 years from the work's first publication, with an option for a 14-year renewal if the author remained alive.[56]

51. Adrian Johns, *Piracy: The Intellectual Property Wars from Gutenberg to Gates* (*University of Chicago Press 2009)* 16-24.
52. Ronan Deazley, *On the Origin of the Right to Copy (Hart Publishing 2004)* 1-18.
53. Cyprian Blagden, *The Stationers' Company: A History, 1403*-1959 (George Allen & Unwin 1960) 32-45.
54. Lyman Ray Patterson, *Copyright in Historical Perspective (Vanderbilt University Press 1968)* 20-35.
55. Statute of Anne 1710, 8 Ann c 19.
56. Ronan Deazley, *'Commentary on the Statute of Anne 1710'* in *Primary Sources on Copyright* (1450-1900) (*Arts and Humanities Research Council* 2008).

The Statute of Anne encapsulated Enlightenment ideals regarding individual creativity and property rights, indicating a shift from granting stationers perpetual monopolies to a system that balances authors' rights against public access to knowledge.[57] The preamble of the Act explicitly stated its purpose of promoting learning, acknowledging that copyright should yield both individual incentives for creation and collective benefits from works' accessibility.[58]

International Harmonization: The Berne Convention

As creative works increasingly traversed national boundaries, the necessity for international copyright protections became clear. The Berne Convention for the Protection of Literary and Artistic Works, adopted in 1886, established the first multilateral copyright framework.[59] The Convention introduced several fundamental principles that still influence international copyright law today:

The principle of national treatment mandates that member states extend the same copyright protections to works from other member nations as they do to their own nationals' works.[60] Automatic protection stipulates that copyright exists upon a work's creation without the need for formal registration or notice.[61] The Convention also set minimum protection standards, encompassing the recognition of moral rights and the establishment of minimum protection durations.[62]

Nigeria joined the Berne Convention in 1993, showcasing its commitment to adhering to international copyright norms.[63] The Convention has been amended multiple times,

57. Mark Rose (n 49) 42-48.
58. Statute of Anne 1710, Preamble.
59. Sam Ricketson and Jane C Ginsburg, *International Copyright and Neighbouring Rights: The Berne Convention and Beyond* (*2nd edn, Oxford University Press 2006*) vol 1, 51-73.
60. Berne Convention (n 3) art 5(1).
61. ibid art 5(2).
62. ibid arts 6bis, 7.
63. World Intellectual Property Organization, *'Berne Convention Contracting Parties'* <https:www.wipo.inttreatiesenShowResults.jsp?treatyid=15> accessed 25 November 2025.

most recently in Paris in 1971, to address emerging technologies and broaden protective scope to new creative forms.[64] However, the Convention was framed in a time when human authorship was the unquestioned norm, leaving no provisions for non-human creators.[65]

Copyright in the Digital Age

The late 20th and early 21st centuries have seen considerable challenges to traditional copyright frameworks as digital technologies have transformed creation, reproduction, and dissemination practices.[66] The capacity for flawless digital content copying and global sharing has endangered established business models and enforcement mechanisms.[67]

In response, the international community adopted the WIPO Copyright Treaty (WCT) in 1996, extending copyright protection into the digital sphere and establishing guidelines concerning technological protection measures and rights management information.[68] The WCT acknowledges that authors should possess the exclusive right to authorize online availability of their works, tackling specific challenges posed by internet distribution.[69]

National legislatures also enacted laws to address digital dilemmas. The United States passed the Digital Millennium Copyright Act (1998), implementing the WCT and founding safe harbors for online service providers.[70] The European Union established the Information Society Directive (2001) to harmonize copyright laws among member

64. Sam Ricketson and Jane C Ginsburg (n 59) 74-89.
65. Andres Guadamuz and Liliana Valladares, *'The Monkey Selfie: Copyright Lessons for Originality in Photographs and Internet Jurisdiction'* (2017) *8 Internet Policy Review* 1, 8-10.
66. William W Fisher III, *Promises to Keep: Technology, Law, and the Future of Entertainment (Stanford University Press 2004)* 1-15.
67. Jessica Litman (n 43) 77-88.
68. WIPO Copyright Treaty (n 46) arts 8, 11-12.
69. ibid art 8.
70. Digital Millennium Copyright Act 1998, 17 USC § 512.

states within the digital context.[71] Nigeria's Copyright Act 2022 replaced the earlier 1988 Act, incorporating measures to confront digital technologies and internet distribution.[72]

Evolution of Nigerian Copyright Law

Nigerian copyright law has developed through various stages, reflecting both local cultural traditions and international influences.[73] Before colonialism, creative works were safeguarded through customary law and communal ownership systems, primarily concerning folklore and traditional cultural expressions.[74]

The first formal copyright legislation in Nigeria, the Copyright Act of 1970, was modeled on the UK Copyright Act of 1956.[75] This Act provided basic protection for literary, musical, and artistic works, albeit with limited scope and enforcement mechanisms. The 1988 Copyright Act (as amended) modernized the landscape of Nigerian copyright law by establishing the Nigerian Copyright Commission as the regulatory authority and widening protections to include cinematographic films, sound recordings, and broadcasts.[76]

The 2022 Copyright Act represents the most comprehensive recent overhaul of Nigerian copyright law,[77] adapting protections for the digital age, addressing online infringements, and enhancing enforcement mechanisms. Nevertheless, despite these

71. Directive 200129EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L16710.
72. Copyright Act 2022, ss 18-19, 30-32.
73. Bankole Sodipo, *Piracy and Counterfeiting: GATT, TRIPS and Developing Countries (Kluwer Law International 1997)* 167-170.
74. Adebambo Adewopo, *The Global Intellectual Property System and Sub-Saharan Africa: A Prognostic Reflection'* (*2012) 33 University of Pennsylvania Journal of International Law 1*, 25-28.
75. Copyright Act 1970, Cap 68 Laws of the Federation of Nigeria.
76. [76] Copyright Act 1988 (as amended), Cap C28 Laws of the Federation of Nigeria 2004.
77. Copyright Act 2022.

updates, the Act retains traditional notions of authorship based on human creators and does not specifically deal with AI-generated content.[78]

2.2.2 Theories of authorship and originality

The stipulations of authorship and originality in copyright law are not merely technical legal mandates; they embody profound philosophical inquiries concerning creativity, personhood, and the essence of intellectual property.[79] Various theoretical frameworks have shaped the evolution and interpretation of such concepts.

Labor Theory

The labor theory of property, primarily linked to John Locke's ideas in "Two Treatises of Government" (1689), asserts that individuals acquire property rights by integrating their labor with natural resources.[80] When applied to intellectual property, this theory suggests authors rightly receive copyright protection because they've invested labor and effort into creating previously nonexistent works.[81]

This labor perspective underpins the "sweat of the brow" doctrine, which confers copyright protection based on industriousness and labor invested in work creation, independent of the work's creative or aesthetic value.[82] Historically, this concept has been applied in instances involving compilations and databases, where minimal creativity may exist but significant effort was needed to gather and organize data.[83]

78. Adebambo Adewopo, *'Nigerian Copyright System: Principles and Perspectives'* (*Nigerian Copyright Commission 2012)* 78-82.
79. Peter Jaszi, *'Toward a Theory of Copyright: The Metamorphoses of "Authorship"'* (1991) 1991 Duke Law Journal 455, 456-460.
80. John Locke, *Two Treatises of Government* (*Peter Laslett ed, Cambridge University Press 1988) Second Treatise*, ch 5.
81. Justin Hughes, *'The Philosophy of Intellectual Property'* (1988) 77 *Georgetown Law Journal 287, 296-300.*
82. Walter v Lane [1900] AC 539 (HL).
83. Jane C Ginsburg, *'Creation and Commercial Value: Copyright Protection of Works of Information'* (*1990) 90 Columbia Law Review 1865, 1868-1875*.

However, significant critiques have emerged regarding the labor theory. The U.S. Supreme Court dismissed the sweat of the brow doctrine in ***Feist Publications, Inc. v. Rural Telephone Service Co.***, reaffirming that copyright necessitates not only effort but creative originality.[84] Critics also argue that the labor theory fails to clarify why intellectual labor warrants protection when other forms of labor do not automatically create property rights, potentially granting excessive rights based merely on effort rather than creative contribution.[85]

In relation to AI-generated outputs, the labor theory raises complex questions. If substantial human effort is invested in developing, training, and prompting AI systems to generate outputs, should this labor justify copyright protection? Conversely, if the AI is responsible for creative labor in generating the work, should protection be denied since machines cannot own property?[86]

Personality Theory

The personality theory, rooted in Hegelian philosophy and articulated by scholars like Margaret Jane Radin, argues that intellectual property rights are justified because creative works embody the personality and self-expression of their creators.[87] This perspective accentuates the relationship between the author and the work, considering creative output as an extension of one's personhood deserving of protection.[88]

This theory provides rigorous theoretical backing for moral rights, safeguarding the author's interests in attribution and preventing misrepresentation of their work.[89]

84. Feist Publications (n 10) 359-360.
85. Wendy J Gordon, *'A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property'* (1993) 102 *Yale Law Journal 1533, 1540-1545*.
86. Pamela Samuelson (n 25) 1222-1225.
87. Margaret Jane Radin, *'Property and Personhood'* (1982) 34 Stanford Law Review 957, 957-965
88. Justin Hughes, *'The Personality Interest of Artists and Inventors in Intellectual Property'* (1990) 16 Cardozo Arts & Entertainment Law Journal 81, 90-95.
89. Cyrill P Rigamonti, *'Deconstructing Moral Rights'* (2006) 47 Harvard International Law Journal 353, 355-360.

Copyright systems in Continental Europe have traditionally granted stronger moral rights influenced by this theory compared to Anglo-American systems.[90] The Berne Convention's acknowledgment of moral rights reflects the impact of personality theory in international copyright frameworks.[91]

According to personality theory, copyright protection should be confined to works that mirror human personality and self-expression.[92] AI-generated outputs, from this viewpoint, would not qualify for protection as machines lack personhood, consciousness, and the capability for self-expression. An AI-generated work would not reflect the AI's personality, but rather stem from it processing data through algorithmic means.[93]

Nonetheless, some scholars argue that if a human's creative decisions in prompting and curating AI outputs indicate their personality, the resulting work may fulfill personality-based criteria for copyright protection.[94] This assertion requires demonstrating that human creative input is sufficiently embedded within the work to represent self-expression.

Utilitarian Economic Theory

Utilitarian or economic theories of copyright, especially prominent in Anglo-American legal systems, justify intellectual property protection as a means to foster

90. Jane C Ginsburg, *'A Tale of Two Copyrights: Literary Property in Revolutionary France and America' (1990) 64 Tulane Law Review 991, 1019-1025.*
91. Berne Convention (n 3) art 6bis.x
92. Edward J Damich, *'The Right of Personality: A Common-Law Basis for the Protection of the Moral Rights of Authors' (1988) 23 Georgia Law Review 1, 40-48.*
93. Annemarie Bridy (n 32) 415-418.
94. Shlomit Yanisky-Ravid and Luis Antonio Velez-Hernandez*, 'Copyrightability of Artworks Produced by Creative Robots and Originality: The Formality-Objective Model'* (*2018) 19 Minnesota Journal of Law, Science & Technology 1, 45-50.*

social welfare by incentivizing the creation and distribution of works.[95] This perspective views copyright as a policy mechanism balancing the public benefits of promoting creativity against the societal costs of restricting access to information and creative outputs.[96]

The conventional economic argument for copyright indicates that creative works represent public goods that are non-rivalrous (one person's usage does not diminish another's) and potentially non-excludable (difficult to prevent others from utilizing).[97] In the absence of legal protection, creators may struggle to recover their investment in creating works since others could freely copy and disseminate them. Copyright privileges grant temporary monopolies to creators, enabling them to monetize access and ultimately recover their investment and achieve profitability.[98]

The utilitarian domain ports the establishment of limitations and exceptions concerning copyright protection, such as fair use or fair dealing, which allow certain applications without authorization to promote socially beneficial pursuits like education, research, and commentary.[99] The limited duration of copyright is a reflection of the utilitarian concern that indefinite monopolies would unreasonably hinder public access to knowledge and culture.[100]

This utilitarian perspective, when applied to AI-generated outputs, suggests that protection should hinge on whether it serves to encourage beneficial creation.[101] If human involvement necessitates copyright protection as an incentive for developing

95. William M Landes and Richard A Posner, *The Economic Structure of Intellectual Property Law (Harvard University Press 2003) 37-42.*
96. Robert P Merges, *'Justifying Intellectual Property'* (*Harvard University Press 2011) 3-9.*
97. Brett M Frischmann and Mark A Lemley, *'Spillovers' (2007) 107 Columbia Law Review 257, 262-268.*
98. William M Landes and Richard A Posner (n 95) 11-17.
99. Michael J Madison*, 'A Pattern-Oriented Approach to Fair Use' (2004) 45 William and Mary Law Review 1525, 1530-1540.*
100. Paul Heald, *'Property Rights and the Efficient Exploitation of Copyrighted Works: An Empirical Analysis of Public Domain and Copyrighted Fiction Bestsellers' (2008) 92 Minnesota Law Review 1031, 1032-1038*.
101. Dan L Burk, *'Algorithmic Fair Use' (2019) 86 University of Chicago Law Review 283, 295-300.*

and implementing AI systems capable of generating valuable content, protection may be valid. Conversely, if AI systems can autonomously create works without needing copyright-driven incentives, or if granting such protection would unduly restrict access to content without corresponding social benefits, then protection may be inappropriate.[102]

Some contend that declining protection for AI-generated works may actually stimulate innovation by keeping such content in the public domain for unrestricted access.[103] Others argue that substantial investment is critical for developing sophisticated AI systems and that copyright protection for outputs is necessary to allow developers to recover expenses and fuel further advancements.[104]

Social Planning Theory

The social planning theory, articulated by scholars such as Neil Netanel, posits that copyright should be structured to advocate for democratic culture, robust public discourse, and diverse creative expressions.[105] This perspective underscores copyright's role in fostering cultural production aligned with public values transcending mere economic efficiency.[106]

From this standpoint, copyright law should be designed to ensure a wide array of voices and viewpoints can contribute to cultural production instead of allowing creative power to be concentrated among a few corporate entities.[107] This theory

102. Mark A Lemley, *'IP in a World Without Scarcity' (2015) 90 New York University Law Review 460, 475-482.*
103. James Boyle, *The Public Domain: Enclosing the Commons of the Mind (Yale University Press 2008) 38-45.*
104. Robert C Denicola, *'Ex Machina: Copyright Protection for Computer-Generated Works' (2016) 69 Rutgers University Law Review 251, 280-285.*
105. Neil Weinstock Netanel*, 'Copyright and a Democratic Civil Society' (1996) 106 Yale Law Journal 283, 288-293.*
106. ibid 307-312.
107. Julie E Cohen, *'Copyright as Property in the Post-Industrial Economy: A Research Agenda' (2011) Wisconsin Law Review 141, 155-160.*

endorses expansive fair use provisions, protections for transformative uses, and limitations on copyright scope to facilitate entry for new creators.[108]

In examining AI-generated content, social planning theory raises significant concerns. If AI systems trained on existing work yield derivative content, does this democratize creativity by enabling broader production of sophisticated works, or does it commodify creativity and jeopardize the livelihoods of human creators?[109] Should copyright policy favor or restrict AI-generated content based on its impact on cultural diversity and democratic discourse?[110]

The Romance of Authorship

Literary theorist Martha Woodmansee and legal scholar Peter Jaszi have criticized what they refer to as the "romantic" conception of authorship prevalent in copyright law.[111] This ideology, rooted in Romantic-era ideals, depicts authors as solitary geniuses who produce entirely original works inspired spontaneously. Woodmansee and Jaszi argue that this narrative misrepresents the reality of creative processes, which typically involve collaboration, incremental development, and reliance on existing cultural materials.[112]

The romantic author image has influenced copyright law's emphasis on originality and individual authorship, potentially masking the social and collaborative aspects of creativity.[113] In the context of AI, the romantic author paradigm brings to light the

108. Neil Weinstock Netanel (n 105) 346-352.
109. Matthew Sag, *'The New Legal Landscape for Text Mining and Machine Learning'* (*2019) 66 Journal of the Copyright Society of the USA 291, 295-300.*
110. Amanda Levendowski*, 'How Copyright Law Can Fix Artificial Intelligence's Implicit Bias Problem' (2018) 93 Washington Law Review 579, 590-595.*
111. Martha Woodmansee and Peter Jaszi (eds), *The Construction of Authorship: Textual Appropriation in Law and Literature (Duke University Press 1994) 1-13.*
112. Martha Woodmansee, *'The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the "Author"' (1984) 17 Eighteenth-Century Studies 425, 426-430.*
113. Peter Jaszi (n 79) 497-502.

tension between conventional human-centered notions of creativity and algorithmic generation of content.[114]

Some thinkers argue that acknowledging the copyright eligibility of AI-generated works necessitates departing from romantic notions of authorship and recognizing that creativity can arise from processes that do not involve human inspiration.[115] Others contend that despite its drawbacks, the romantic author concept effectively captures essential values of human creative expression that should not be relinquished solely because technology can create comparable outputs.[116]

2.2.3 Perspectives from Nigeria and internationally

The emergence of AI-generated content and copyright has prompted varied responses across legal systems, reflecting diverse legal traditions, economic interests, and policy objectives.[117]

Nigerian Perspective

Nigerian copyright law, as articulated in the 2022 Copyright Act, preserves traditional human-centric notions of authorship and does not explicitly encompass AI-generated works.[118] The Act defines "author" in terms of natural persons or legal entities in specific scenarios (for instance, employers in works made for hire), but it does not consider autonomous machine creation.[119]

114. James Grimmelmann (n 38) 420-425.
115. Kalin Hristov, *'Artificial Intelligence and the Copyright Dilemma'* (*2017) 57 IDEA: The Law Review of the Franklin Pierce Center for Intellectual Property 431, 450-455.*
116. Jane C Ginsburg and Luke A Budiardjo (n 26) 380-385.
117. *Jyh-An Lee, 'Copyright and Artificial Intelligence in China and Around the World' in Jyh-An Lee, Reto M Hilty and Kung-Chung Liu (eds), Artificial Intelligence and Intellectual Property (Oxford University Press 2021) 186-190.*
118. Copyright Act 2022, s 10.
119. ibid.

Academic discussions about AI and copyright in Nigeria are still limited yet increasing. Scholars have highlighted the necessity for the nation's intellectual property system to adapt to technological developments to remain competitive in the global digital economy.[120] Although Nigeria's National Policy on Artificial Intelligence touches on various aspects of AI development and deployment, it does not specifically address copyright issues related to AI-generated content.[121] The Nigerian Copyright Commission has acknowledged the hurdles digital technologies pose and has initiated efforts to bolster enforcement in online realms.[122] Nevertheless, the Commission has not issued specific guidelines related to AI-generated content, resulting in considerable uncertainty for creators, users, and stakeholders engaged with generative AI technologies.[123]

Given Nigeria's status as an emerging economy with a dynamic creative sector, addressing AI copyright issues carries considerable implications.[124] The local entertainment industry—including music, film, and literature—plays an essential role in the nation's economy and culture. Ensuring copyright policies both promote technological innovation and protect human creators is vital for fostering sustainable growth in this domain.[125]

United States

The United States Copyright Office firmly maintains that works lacking human authorship are ineligible for copyright protection.[126] Its Compendium of U.S.

120. Adebambo Adewopo (n 78) 90-95.
121. National Information Technology Development Agency, *'National Artificial Intelligence Strategy for Nigeria'* (2021) 35-38.
122. Nigerian Copyright Commission, *'Strategic Plan 2021-2025'* (2021) 18-22.
123. ibid 23-25.
124. PricewaterhouseCoopers, *'Entertainment & Media Outlook: 2021-2025, Nigeria'* (2021) 8-12.
125. [125] ibid 15-18.
126. United States Copyright Office, *Compendium of U.S Copyright Office Practices (3rd edn, 2021) § 306.*

Copyright Office Practices (Third Edition) states that an original work will be registered "provided that the work was created by a human being" and that “works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or human intervention" are not eligible for registration.[127]

This stance was reaffirmed in recent guidance documents addressing AI-generated content.[128] The Copyright Office indicated that works blending AI-generated material may be eligible for registration if enough human authorship is involved in selecting, arranging, or modifying the AI-generated elements, but the AI-generated segments alone are not protected.[129]

This human authorship condition is anchored in constitutional text—the U.S. Constitution grants Congress the authority to secure exclusive rights to "Authors" for their "Writings"—interpreted by courts to necessitate human creativity.[130] In ***Burrow-Giles Lithographic Co. v Sarony***, the Reme Court established that photographs could receive copyright protection when they represent "original intellectual conceptions of the author," emphasizing the mental conception and creative decisions involved.[131]

United Kingdom

The United Kingdom adopts a more pragmatic stance on computer-generated works. Section 9(3) of the Copyright, Designs and Patents Act 1988 dictates that for a computer-generated work, "the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken."[132] This

127. ibid § 313.2.
128. United States Copyright Office, *'Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence' (2023) 88 Fed Reg 16190*.
129. ibid 16192-16194.
130. US Constitution art I, § 8, cl 8.
131. *111 US 53, 58 (1884)*.
132. Copyright, Designs and Patents Act 1988, s 9(3).

provision, unique among major jurisdictions, offers a means to protect AI-generated content by attributing authorship to the facilitator of the creation process. The UK's stance reflects a policy decision that providing copyright protection for computer-generated works serves economic interests by incentivizing tech investment.[133] Yet, the application of this provision to modern AI systems raises interpretive challenges: Who exactly "undertakes the arrangements" when numerous parties are involved in developing algorithms, training models, and prompting outputs?[134]

The UK Intellectual Property Office has noted that existing laws in this area may necessitate updates to keep pace with advances in AI technology.[135] The Office has consulted stakeholders regarding potential reforms, considering if the current legislation adequately addresses AI-generated content or if new provisions are needed.[136]

European Union

The European Union has not established specific laws focusing on AI-generated works, and this issue remains contingent on member state regulations and interpretations of EU directives.[137] The Court of Justice of the European Union has affirmed that copyright protection necessitates that works be the "author's own intellectual creation," reflecting the author's creative choices and personality.[138] This standard, elucidated in cases like ***Infopaq International AS v Danske Dagblades***

133. UK Intellectual Property Office, *'Artificial Intelligence and Intellectual Property: Copyright and Patents'* (2021) 29-32.
134. ibid 33-35.
135. ibid 36-38.
136. UK Intellectual Property Office, *'Artificial Intelligence and Intellectual Property: Call for Views' (2021) 15-18.*
137. European Commission, *'Trends and Developments in Artificial Intelligence: Challenges to the Intellectual Property Rights Framework'* (2020) 45-48.
138. *Case C-508 "Infopaq" (n 12) [37]-[45].*

Forening[139] *and* ***Painer v Standard VerlagsGmbH***[140], suggests that purely machine-generated works lacking human creative input would fall short of EU originality standards. However, works that involve human-AI collaboration—where humans make creative decisions related to prompting, selecting, or modifying outputs—might be eligible for protection if they exhibit sufficient human creativity.[141]

The EU has been actively pursuing AI through numerous policy initiatives, including the proposed Artificial Intelligence Act, which sets forth risk-based regulation of AI systems.[142] However, this legislation primarily emphasizes safety, transparency, and fundamental rights rather than intellectual property. The EU's perspective on copyright and AI is likely to continue evolving through case law and potential future legislative measures.[143]

Other Jurisdictions

Other nations have adopted various approaches or have not yet established clear stances on the matter. In India, the Copyright Office initially accepted an application for registering an AI-generated piece with the AI listed as a co-author but later retracted the registration, creating uncertainty in legal status.[144] Australia has contemplated whether computer-generated works should receive similar protections as proposed in the UK framework but has yet to enact specific legislation.[145] China has seen judicial rulings indicating that AI-generated content may receive protection under particular circumstances, especially when human creative input is

139. ibid.
140. *[2011] ECR I-12533.*
141. European Commission (n 137) 50-53.
142. Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) COM (2021) 206 final.
143. European Commission (n 137) 55-58.
144. *Aparajita Lath, 'India's Tryst with AI and Copyright: The Case of RAGHAV' (2021) Centre for Internet and Society.*
145. Australian Law Reform Commission, *'Copyright and the Digital Economy'* (*ALRC Report 122, 2013) 195-198.*

exhibited.[146] Japanese law has been interpreted to necessitate human authorship, although academic debates around potential reforms continue.[147]

The variety of international approaches underscores genuine uncertainty regarding the suitable policy response to AI-generated works.[148] Whether a consensus for international harmonization will develop or whether jurisdictions will continue to follow divergent paths remains an open question with significant implications for creators, users, and global enterprises.[149]

2.3 Literature Review/Empirical Framework

The academic discourse surrounding AI-generated content and copyright has expanded swiftly in recent years, highlighting growing awareness of this issue's relevance.[150] This review synthesizes key contributions to the discussion, arranged thematically.

Arguments Supporting Copyright Protection for AI-Generated Works

Numerous scholars contend that AI-generated works should be entitled to copyright protection, although their rationales and suggested frameworks vary.[151]

Proponents of protection often underscore utilitarian arguments, asserting that copyright incentives are crucial for stimulating investment in the development and use of AI technologies.[152] Significant resources are required to create sophisticated AI systems, covering expenses for computing infrastructure, data acquisition, and

146. *Feilin Tencent Technology Co. Ltd. v Shanghai Yingxun Technology Co. Ltd (Shenzhen Nanshan District People's Court, 25 December 2019).*
147. Yoshiyuki Tamura, *'AI and Copyright'* (2018) 39 Copyright Research and Information Center Journal 1.
148. Jyh-An Lee (n 117) 200-205.
149. ibid 206-210.
150. Ryan Abbott (n 33) 115-125.
151. Robert C Denicola (n 104) 252-258.
152. ibid 280-290.

algorithm design. Without copyright protection for outputs, investors may be unable to recover their costs, potentially hindering AI innovation overall.[153]

Some argue that the individual who prompts or trains an AI system exercises creative judgment qualifying them as the author of the resulting works.[154] From this viewpoint, detailed prompting of generative AI encompasses creative decisions regarding style, subject matter, and desired outcomes, much like directing a human assistant or commissioning a piece. The prompter's selection from various AI-generated outputs also constitutes an element of creative judgment.[155]

Others advocate for assigning authorship to the developer of the AI or the entity that owns the AI system, arguing that these parties have orchestrated the necessary arrangements for the work's creation.[156] This approach reflects the UK's handling of computer-generated works and work-for-hire doctrines, wherein legal authorship is ascribed to those who facilitate the creation rather than to the direct creator.[157]

Arguments Against Copyright Protection for AI-Generated Works

A considerable body of scholarship opposes extending copyright protection to AI-generated works, presenting various justifications.[158]

Several scholars assert that the foundations of copyright law, grounded in human creativity, personality, and self-expression, contradict the nature of machine-generated content.[159] AI systems lack consciousness, intent, and aesthetic judgment, suggesting

153. Pamela Samuelson (n 25) 1200-1210.
154. Shlomit Yanisky-Ravid and Luis Antonio Velez-Hernandez (n 94) 30-40.
155. ibid 41-48.
156. Ralph D Clifford, *'Intellectual Property in the Era of the Creative Computer Program: Will the True Creator Please Stand Up?' (1997) 71 Tulane Law Review 1675, 1700-1710.*
157. *ibid 1711-1718.*
158. Jane C Ginsburg and Luke A Budiardjo (n 26) 350-360.
159. Annemarie Bridy (n 32) 415-420.

their outputs do not manifest human personality or creativity. Granting protection to such works would fundamentally alter the nature and rationale of copyright.[160]

Critics also invoke the constitutional and statutory mandates of human authorship prevalent in many jurisdictions.[161] The provision in the U.S. Constitution referring to "Authors" has been interpreted as requiring human origins, and departing from this requirement would exceed legislative and judicial powers. Enforcing a clear human authorship rule prevents ambiguity and litigation.[162]

Some argue that denying AI-generated works copyright protection serves innovation by keeping such content in the public domain.[163] When freely available, AI-generated works can be utilized as input for further creative endeavors, fostering cumulative innovation and circumventing the monopolization of algorithmically created outputs. The social costs of granting exclusivity over AI outputs may exceed any incentive benefits.[164]

Intermediate Positions and Alternative Frameworks

Several scholars have suggested intermediate solutions that would provide some level of protection or incentives while recognizing the unique nature of AI-generated outputs.[165]

One proposition involves creating sui generis protection frameworks specifically for AI-generated works, similar to database rights in the EU or protection for semiconductor mask works.[166] Such frameworks could offer narrower, shorter-term

160. ibid 421-425.
161. Jane C Ginsburg and Luke A Budiardjo (n 26) 361-370.
162. United States Copyright Office (n 126) § 313.2.
163. James Boyle (n 103) 45-52.
164. Mark A Lemley (n 102) 485-492.
165. Terence C Poon (n 47) 595-600.
166. Andres Guadamuz, *'Do Androids Dream of Electric Copyright? Comparative Analysis of Originality in Artificial Intelligence Generated Works' (2017) 2 Intellectual Property Quarterly 169, 185-190.*

protections than traditional copyright, striking a balance between encouraging investment and ensuring public access concerns.[167]

Another approach would restrict protection for AI-generated works to instances where significant human creative input is evident in prompting, selecting, or modifying outputs.[168] This framework would necessitate courts evaluating human contributions on a case-by-case basis, granting protection wherever human creativity is adequately manifested.[169]

Some scholars propose that AI-generated works be eligible for protection, albeit with shorter terms of protection or compulsory licensing stipulations.[170] This strategy would provide economic incentives while limiting monopolistic control over machine-generated content.[171]

Empirical Studies and Case Examples

Research on AI-generated content and copyright remains limited but is on the rise.[172] Studies have examined the usage of AI-generated content within creative industries, revealing that many businesses are uncertain regarding the copyright status of AI-assisted creations.[173]

Several legal cases have begun clarifying the treatment of AI-generated works in practice. The U.S. Copyright Office's rejection of Steven Thaler's application to register a work produced by his AI system "CREATIVITY MACHINE" confirmed

167. ibid 191-195.
168. Shlomit Yanisky-Ravid (n 40) 695-705.
169. ibid 706-710.
170. Ryan Abbott (n 33) 130-135.
171. ibid 136-140.
172. Jörg Ohliger, *'AI & IP: Artificial Intelligence in the Intellectual Property System'* (2020) European *Patent Office Working Paper 12020, 25-30.*
173. ibid 31-35.

that AI-created works without human authorship are not eligible for registration.[174] Similarly, Kris Kashtanova's graphic novel "Zarya of the Dawn" received partial registration, with copyright granted for textual content and arrangement but denied for individual AI-generated images created via Midjourney.[175]

These examples emphasize an emerging tendency to protect human creative contributions within works incorporating AI-generated elements while denying protection for the machine-generated segments.[176] Nevertheless, considerable ambiguity persists about where to delineate protected human contributions from unprotected machine outputs.[177]

Comparative and International Law Scholarship

Scholars scrutinizing copyright and AI from international and comparative perspectives emphasize the tensions between national regulations and calls for international synchronization.[178] The divergence between the UK's stance on computer-generated works and the U.S. human authorship requirement poses challenges for multinational creators and corporations.[179]

International treaties, such as the Berne Convention, overlook AI authorship, allowing member states to pursue varied regulatory approaches.[180] Some scholars suggest that WIPO should devise new international regulations targeting AI-generated content to

174. United States Copyright Office, *Re: Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise* (SR 1-7100387071) (14 February 2022).
175. United States Copyright Office, *Re: Second Request for Reconsideration for Refusal to Register Zarya of the Dawn (Visual Arts) (21 February 2023).*
176. ibid 4-6.
177. ibid 7-9.
178. Jyh-An Lee (n 117) 195-200.
179. ibid 201-205.
180. Sam Ricketson and Jane C Ginsburg (n 59) 385-390.

foster harmonization.[181] Others argue that national experiments should proceed until optimal policy solutions become evident.[182]

Nigerian Scholarly Contributions

The academic literature specifically focusing on AI and copyright within Nigeria remains scarce yet is emerging.[183] Nigerian scholars have highlighted the urgency for the copyright framework to evolve to incorporate digital technologies and AI.[184]

Adeyemi Adewopo contends that Nigerian copyright law must adapt to contemporary technological realities to stay relevant and effective.[185] His work underscores the importance of balancing creator protections with broad access to knowledge and culture, advocating for reform that ports both innovation and cultural production.[186]

Other Nigerian scholars have evaluated the Copyright Act 2022, scrutinizing its strengths and weaknesses in addressing digital challenges.[187] While the Act updates several elements of Nigerian copyright law, it does not specifically tackle AI-generated works, leaving a crucial gap that requires addressing from legislators and policymakers.[188]

Synthesis and Research Gap

The literature indicates fundamental disagreements about the extent to which AI-generated works should qualify for copyright protection, rooted in divergent theoretical commitments and policy objectives.[189] Utilitarian arguments favoring

181. Jörg Ohliger (n 172) 40-45.
182. Ryan Abbott (n 33) 145-150.
183. Adebambo Adewopo (n 78) 1-5.
184. ibid 90-98.
185. ibid 95-100.
186. ibid 101-108.
187. Olajide Oyewunmi**,** *'The New Nigerian Copyright Act 2022: A Critical Analysis'* (2023) 14 Journal of *Intellectual Property Law & Practice 450, 452-458.*
188. ibid 459-463.
189. Jane C Ginsburg and Luke A Budiardjo (n 26) 395-400.

protection, emphasizing economic incentives, clash with personality-based arguments that link copyright to human creativity and self-expression.[190] Jurisdictional diversity complicates the development of coherent policy frameworks.[191]

A notable gap persists in understanding how developing nations, such as Nigeria, should handle issues surrounding AI and copyright.[192] Much of the existing scholarship centers on developed countries with established creative industries and technology sectors. Nigeria's unique status as a developing nation with vibrant creative industries and an expanding technology sector merits focused attention.[193]

Additionally, empirical inquiries into the practical ramifications of diverse policy approaches remain limited.[194] As AI technologies continue to advance at a rapid pace, continuous research is essential in evaluating how copyright policies impact innovation, creativity, and cultural accessibility.[195] This study aims to address these gaps by exploring AI-generated content and copyright in the specific context of Nigeria, with references to international developments and comparative analyses from other jurisdictions.[196]

Having dealt so much on this chapter, we shall now move over to the next, chapter 3 which deals with the legal and institutional frameworks for intellectual property protection.

190. Annemarie Bridy (n 32) 430-435.
191. Jyh-An Lee (n 117) 210-215.
192. Adebambo Adewopo (n 78) 110-115.
193. ibid 116-120.
194. Jörg Ohliger (n 172) 50-55.
195. ibid 56-60.
196. This study seeks to contribute to filling these identified gaps in the literature.

CHAPTER THREE

LEGAL AND INSTITUTIONAL FRAMEWORKS FOR INTELLECTUAL PROPERTY PROTECTION

3.1 Legal Frameworks for Intellectual Property Protection

The protection of intellectual property, particularly copyright, operates within a complex framework of international, regional, and national legal systems. These frameworks set minimum protection standards, streamline laws across different jurisdictions, and outline enforcement and dispute resolution mechanisms. This section examines the primary legal instruments that govern copyright protection both globally and within Nigeria.

3.1.1 International Instruments for Copyright Protection

a. Berne Convention 1886

The Berne Convention, established in 1886 and revised multiple times, serves as the foundation of international copyright protection.[197] It upholds the principle of national treatment, obligating member states to extend the same protection to foreign works as they do to their internal works.[198] Additionally, it introduced the concept of automatic protection, stating that copyright arises automatically upon the creation of a work without any need for registration or other formalities.[199] The Convention stipulates minimum copyright protection standards, including a term that lasts for the author's lifetime plus 50 years.[200] Furthermore, it acknowledges moral rights, enabling authors to assert their authorship and oppose any

197. Berne Convention for the Protection of Literary and Artistic Works (adopted 9 September 1886, last revised 28 September 1979) 1161 UNTS 30.
198. ibid art 5(1).
199. ibid art 5(2).
200. ibid art 7(1).

modifications or distortions that could harm their reputation.[201] Currently managed by the World Intellectual Property Organization (WIPO), the Convention has helped develop a cohesive international copyright framework with over 180 contracting nations.[202]

b. The Universal Copyright Convention, 1952

The Universal Copyright Convention (UCC) was adopted in 1952 under UNESCO to provide an alternative to the Berne Convention, particularly for the United States, which had a distinct approach to copyright protection at that time.[203] The UCC introduced a shorter minimum protection duration and allowed for formalities like registration, making it more practical for countries that had not ratified the Berne Convention.[204]

The Convention recognized the © symbol as the universal copyright notification, whereby including the copyright owner's name and the year of first publication satisfies the formality requirements across all member states.[205] However, with the U.S. joining the Berne Convention in 1989 and the establishment of TRIPS in 1995, the UCC's relevance has significantly waned.[206] Most countries that were part of the UCC are now also members of the Berne Convention, which offers superior protection.

201. ibid art 6bis.
202. WIPO, *'Berne Convention for the Protection of Literary and Artistic Works' <https://www.wipo.int/treaties/en/ip/berne/> accessed 28 November 2025.*
203. Universal Copyright Convention (adopted 6 September 1952, revised 24 July 1971) 943 UNTS 178.
204. Sam Ricketson and Jane C Ginsburg, *International Copyright and Neighbouring Rights: The Berne Convention and Beyond (2nd edn, Oxford University Press 2006) 102-105.*
205. Universal Copyright Convention (n 7) art III.
206. Paul Goldstein and P Bernt Hugenholtz, *International Copyright: Principles, Law, and Practice* (4th *edn, Oxford University Press 2019) 45.*

c. The Rome Convention

The Rome Convention, adopted in 1961, expanded intellectual property protection to include not only authors but also performers, producers of phonograms (sound recordings), and broadcasting organizations.[207] This was a critical advancement as it recognized that these entities also contribute significant creative and economic value to the distribution of works and merit protection for their investments and performances.[208]

The Convention grants minimum rights to various beneficiaries. Performers can prevent unauthorized recording and broadcasting of their live acts.[209] Producers of phonograms are protected against unauthorized reproduction of their works.[210] Broadcasting organizations receive safeguards against unauthorized rebroadcasting and reproduction of their content.[211] The Rome Convention has been particularly influential in the music sector, where the interests of performers and record producers can differ from those of composers and lyricists.

d. Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), 1994

The TRIPS Agreement, finalized in 1994 during the Uruguay Round of trade discussions that formed the World Trade Organization (WTO), marks a significant

207. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organisations (adopted 26 October 1961) 496 UNTS 43.
208. Sam Ricketson, *The Berne Convention for the Protection of Literary and Artistic Works: 1886-1986 (Kluwer 1987) 567-570.*
209. Rome Convention (n 11) art 7.
210. ibid art 10.
211. ibid art 13.

evolution in international intellectual property protection.[212] In contrast to previous conventions, TRIPS is enforceable through the WTO's dispute resolution mechanism, providing it with considerably more power.[213]

TRIPS includes the substantive rules of the Berne Convention while introducing additional commitments.[214] It extends copyright protection to computer programs classified as literary works and databases regarded as intellectual creations due to their specific arrangement or selection.[215] The Agreement also covers the protection of rental rights for computer programs and sound recordings, while establishing baseline protection durations.[216]

One of TRIPS' most important contributions is its detailed provisions on the enforcement of intellectual property rights, compelling member states to provide effective civil remedies, border measures to prevent the entry of infringing goods, and criminal processes for willful trademark counterfeiting and copyright piracy on a commercial scale.[217] As a binding agreement with solid enforcement provisions, TRIPS has dramatically affected national copyright legislation globally, including in Nigeria.

e. WIPO Internet Treaties

The digital revolution prompted necessary updates to international copyright law, culminating in two significant treaties in 1996: the WIPO Copyright Treaty (WCT)

212. Agreement on Trade-Related Aspects of Intellectual Property Rights (adopted 15 April 1994, entered into force 1 January 1995) 1869 UNTS 299 (TRIPS Agreement).
213. Graeme B Dinwoodie and Rochelle C Dreyfuss, *A Neofederalist Vision of TRIPS: The Resilience of the International Intellectual Property Regime (Oxford University Press 2012) 23-28.*
214. TRIPS Agreement (n 16) art 9(1).
215. ibid art 10.
216. ibid arts 11, 12, 14.
217. ibid arts 41-61.

and the WIPO Performances and Phonograms Treaty (WPPT).[218] These treaties, known together as the WIPO Internet Treaties, tackle the challenges that digital technology and the internet pose to copyright protection.[219]

The WCT establishes that the right to reproduce applies fully in the digital landscape and affirms that the right to communicate to the public includes making works available online.[220] It requires member states to provide adequate legal protection against circumvention of technological measures utilized to safeguard copyrighted works and against the removal or alteration of rights management information.[221]

The WPPT offers similar protections to performers and producers of phonograms, granting them economic rights in the digital realm and moral rights to performers.[222] These treaties have been essential in shaping national digital copyright legislation, including Nigeria's Copyright Act 2022, which addresses technological protection measures and online infringements.

3.2.1 **Nigerian Instruments for Copyright Protection**

a. Copyright Act, 2022

Nigeria's Copyright Act 2022 represents the most thorough and contemporary copyright legislation in the country, replacing the Copyright Act 1988 (as amended in 1999) to confront modern challenges in copyright safeguards.The Act aligns Nigerian copyright law with international benchmarks, specifically the commitments

218. WIPO Copyright Treaty (adopted 20 December 1996, entered into force 6 March 2002) 2186 UNTS 121 (WCT); WIPO Performances and Phonograms Treaty (adopted 20 December 1996, entered into force 20 May 2002) 2186 UNTS 203 (WPPT).
219. Mihály Ficsor, *The Law of Copyright and the Internet: The 1996 WIPO Treaties, their Interpretation and Implementation (Oxford University Press 2002) 1-15.*
220. WCT (n 22) arts 8, 11, 12.
221. ibid
222. WPPT (n 22) arts 5-10, 15-16.

under the Berne Convention, TRIPS Agreement, and the WIPO Internet Treaties that Nigeria supports.[223]

The 2022 Act significantly broadens the range of works eligible for protection by incorporating new categories pertinent to the digital era, such as digital works and derivative creations produced through digital means.[224] It offers clear definitions and clarifies the rights of authors, performers, and other rights holders in the digital setting.[225] The Act also enhances the moral rights of authors, including the right to attribution and the right to contest derogatory treatment of their works.[226]

One major advancement in the 2022 Act is its strong regulations on technological protection measures and rights management information, critical for safeguarding copyrighted works in the digital landscape.[227] The Act makes it illegal to bypass technological measures or to tamper with rights management information, imposing substantial penalties for infractions.[228]

Additionally, the Act modernizes the copyright administration framework in Nigeria by establishing a more autonomous and effective Nigerian Copyright Commission with enhanced enforcement powers.[229] It creates a Copyright Tribunal to process copyright disputes more efficiently and allows for alternative dispute resolution methods.[230] The Act also includes provisions empowering customs officials to detain

223.ibid long title and preamble.
224.ibid s 1.
225.ibid ss 6-8.
226.ibid s 9.
227.ibid ss 37-38.
228.ibid s 39.
229.ibid ss 48-52.
230.ibid ss 53-56.

suspected infringing goods, adding an extra layer of protection against the importation of pirated items.[231]

Furthermore, the 2022 Act addresses the governance of collective management organizations, which are vital for managing rights and collecting royalties on behalf of copyright holders.[232] It sets clear licensing and operational requirements for these organizations, as well as oversight mechanisms to ensure transparency and accountability.[233]

3.3.1 **Institutional Frameworks for Copyright Protection**

a. International Frameworks

To ensure effective copyright protection, a solid legal framework must be complemented by capable institutions for administration, enforcement, and adjudication of copyright matters. This section reviews the pivotal international, regional, and national institutions involved in copyright protection.

i. World Intellectual Property Organization (WIPO)

Established in 1967 and becoming a specialized United Nations agency in 1974, WIPO is the principal international organization handling intellectual property matters.[234] It administers various international treaties, including the Berne and Rome Conventions, as well as the WIPO Internet Treaties.[235] WIPO's goal is to foster the protection of intellectual property worldwide through collaboration among states and cooperation with international bodies.[236]

231. ibid s 42.
232. ibid ss 43-47.
233. ibid
234. Convention Establishing the World Intellectual Property Organization (adopted 14 July 1967, entered into force 26 April 1970, as amended 28 September 1979) 828 UNTS 3.
235. WIPO, *'About WIPO' <https://www.wipo.int/about-wipo/en/> accessed 28 November 2025.*
236. WIPO Convention (n 39) art 3.

The organization offers multiple services to its member states, including providing technical assistance for developing national intellectual property laws and policies, enhancing the capacity of IP offices and enforcement agencies, and providing mediation and arbitration services for IP disputes.[237] WIPO's Arbitration and Mediation Center offers alternative dispute resolution specifically tailored for intellectual property conflicts, including domain name issues.[238] Additionally, WIPO maintains extensive databases and information resources related to intellectual property, facilitating access to patent and trademark data globally.[239]

For developing nations like Nigeria, WIPO's technical assistance initiatives are particularly beneficial, aiding in building institutional capacity, training personnel, and modernizing IP administration systems.[240] WIPO's efforts to raise public awareness about intellectual property and its economic significance have significantly strengthened copyright protections worldwide.

ii. United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO complements WIPO's efforts in promoting copyright protection, focusing on cultural heritage and creative industries.[241] It played a vital part in the creation of

237. WIPO, *'Services'* <https://www.wipo.int/services/en/> accessed 28 November 2025.
238. WIPO, 'WIPO *Arbitration and Mediation Center' <https://www.wipo.int/amc/en/> accessed 28 November 2025.*
239. WIPO, *'IP Databases' <https://www.wipo.int/reference/en/> accessed 28 November 2025.*
240. *WIPO, 'Development Agenda' <https://www.wipo.int/ip-development/en/agenda/> accessed 28 November 2025.*
241. UNESCO Constitution (adopted 16 November 1945, entered into force 4 November 1946, as amended) arts I-II.

the Universal Copyright Convention and continues to address issues at the intersection of culture, education, and intellectual property.[242]

UNESCO supports the development of creative industries in developing nations, emphasizing that effective copyright protection is fundamental for growth in these sectors.[243] The organization advocates for policies balancing creators' rights with public access to knowledge and culture, especially in educational and research environments.[244] UNESCO's initiatives promoting cultural diversity and protection for traditional cultural expressions enhance the copyright framework by addressing types of creativity that may not fit traditional copyright formats.[245]

iii. World Trade Organization (WTO)

The WTO's influence in copyright protection primarily arises from its administration of the TRIPS Agreement.[246] Unlike WIPO, which lacks enforcement mechanisms for most of its treaties, the WTO can enforce TRIPS obligations using its dispute settlement system.[247] Member states can lodge complaints against others for insufficient intellectual property protection, and the dispute resolution body can impose trade sanctions on non-compliant nations.[248]

This enforcement capability has rendered TRIPS one of the most effective international intellectual property agreements.[249] The WTO also provides technical

242. UNESCO, *'Culture and Creativity' <https://www.unesco.org/en/culture> accessed 28 November 2025.*
243. *UNESCO, 'Creative Economy' <https://www.unesco.org/en/creative-economy> accessed 28 November 2025.*
244. ibid
245. UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (adopted 20 October 2005, entered into force 18 March 2007) 2440 UNTS 311.
246. Marrakesh Agreement Establishing the World Trade Organization (adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 3, Annex 1C (TRIPS Agreement).
247. Understanding on Rules and Procedures Governing the Settlement of Disputes, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 UNTS 401.
248. ibid arts 3-23.
249. Peter K Yu, *'The TRIPS Enforcement Dispute'* (*2011) 89 Nebraska Law Review 1046*.

support to developing countries to assist them in meeting their TRIPS commitments, acknowledging the challenges many nations face in establishing comprehensive intellectual property legal frameworks.[250]

iii. World Customs Organization (WCO)

The WCO coordinates customs administrations across the globe, playing a vital role in fighting against the cross-border trafficking of counterfeit and pirated goods.[251] The organization has developed model legislation and protocols for border enforcement of intellectual property rights, which numerous countries have adopted.[252] WCO aids in sharing information among customs authorities regarding trends in counterfeiting and piracy, assisting in uncovering and dismantling international networks involved in intellectual property crimes.[253] Training programs offered by the WCO enable customs personnel to identify counterfeit and pirated products and understand the legal frameworks for detaining and disposing of these items.[254] For Nigeria, collaboration with the WCO is essential, given that a significant amount of pirated content enters the nation through international trade.

iv. Interpol and Other Enforcement Bodies

Interpol facilitates international police cooperation in combating intellectual property crimes, recognizing that counterfeiting and piracy often involve organized crime

250. WTO, *'Intellectual Property: Protection and Enforcement' <https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm> accessed 28 November 2025.*
251. World Customs Organization, *'About Us'* <https://www.wcoomd.org/en/about-us.aspx> accessed 28 November 2025.
252. WCO, *'Illicit Trade' <https://www.wcoomd.org/en/topics/enforcement-and-compliance/activities-and-programmes/illicit-trade-report.aspx> accessed 28 November 2025.*
253. Ibid.
254. Ibid.

networks operating transnationally.[255] Interpol's Intellectual Property Crime Unit collaborates with national law enforcement agencies to share intelligence, coordinate investigations, and conduct operations targeting large-scale intellectual property offenses.[256]

Regional law enforcement organizations, including Europol in Europe and local police forces across Africa, also contribute to coordinating efforts against copyright infringement.[257] These entities support cross-border investigations, the extradition of suspects, and the exchange of best practices in enforcing intellectual property laws.

b. Regional Frameworks

i. African Regional Intellectual Property Organization (ARIPO)

Established in 1976, ARIPO is an intergovernmental body administering intellectual property systems for its member countries in Anglophone Africa.[258] Although ARIPO primarily focuses on patents and trademarks through centralized registration systems, it also addresses copyright-related issues, particularly through developing model laws and technical assistance.[259]

ARIPO promotes cooperation among its agent states in intellectual property matters and represents their collective interests in international arenas.[260] The organization provides training for intellectual property administrators and judges, helping to enhance capacity within member nations.[261] While Nigeria is not a current member of

255. Interpol, *'Intellectual Property Crime' <https://www.interpol.int/Crimes/Illicit-goods/Intellectual-property-crime> accessed 28 November 2025.*
256. ibid.
257. Europol, *'Intellectual Property Crime' <https://www.europol.europa.eu/crime-areas-and-statistics/crime-areas/intellectual-property-crime> accessed 28 November 2025*.
258. Agreement on the Creation of the African Regional Intellectual Property Organization (ARIPO Agreement) (adopted 9 December 1976, entered into force 15 February 1978).
259. ARIPO, *'About ARIPO' <https://www.aripo.org/about-aripo/> accessed 28 November 2025.*
260. ibid
261. *ARIPO, 'Capacity Building' <https://www.aripo.org/capacity-building/> accessed 28 November 2025.*

ARIPO, the organization's work impacts intellectual property developments across the broader African region.

ii. Organisation Africaine de la Propriété Intellectuelle (OAPI)

OAPI, established by the Bangui Agreement in 1977, offers a unified intellectual property system for Francophone African nations.[262] Unlike ARIPO, which allows partial participation in specific protocols, OAPI operates a fully integrated system where a single registration is valid across all member states.[263]

OAPI encompasses copyright protection alongside other intellectual property types while maintaining a centralized registry and enforcing coordination among its members.[264] The Bangui Agreement has been updated multiple times to align with international standards, including TRIPS requirements.[265] Though Nigeria is not an OAPI member, the organization's initiatives highlight the potential advantages of regional collaboration in administering intellectual property, providing informants for future regional strategies.

iii. European Union Intellectual Property Office (EUIPO) and the Court of Justice of the European Union (CJEU)

The EU has developed one of the most advanced regional intellectual property systems globally, with the EUIPO managing EU-wide trademarks and designs while the CJEU provides authoritative interpretations of EU intellectual property legislation, comprising copyright directives.[266] The EU has harmonized many areas of copyright

262. Bangui Agreement Relating to the Creation of an African Intellectual Property Organization (adopted 2 March 1977, revised 24 February 1999).
263. OAPI, *'Presentation' <https://www.oapi.int/> accessed 28 November 2025*.
264. ibid
265. Bangui Agreement (n 67).
266. Regulation (EU) 2017/1001 of the European Parliament and of the Council of 14 June 2017 on the European Union trade mark [2017] OJ L154/1.

law among member states through various directives, including recent efforts targeting copyright within the digital single market.[267]

The EU's experience in aligning copyright laws across diverse legal environments and addressing digital challenges establishes valuable precedents for other regions, including Africa.[268] The EU's enforcement mechanisms, featuring cross-border collaborations among member states and stringent border enforcement, offer models that developing countries can modify to suit their contexts.[269]

c. Nigerian Institutional Frameworks

i. Nigerian Copyright Commission (NCC)

The Nigerian Copyright Commission, formed under the Copyright Act and reconstituted in the 2022 Act, is the primary government entity responsible for copyright management and enforcement in Nigeria.[270] Its mandate involves regulating and overseeing copyrighted works, monitoring compliance, and prosecuting copyright violations.[271]

The NCC has a multifaceted role within the copyright ecosystem, conducting public awareness initiatives to inform creators, users, and the public about copyright law and the importance of respecting intellectual property rights.[272] The Commission offers

267. Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market [2019] OJ L130/92.
268. Estelle Derclaye (ed), *Research Handbook on the Future of EU Copyright (Edward Elgar Publishing 2009).*
269. Directive *2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights [2004] OJ L157/45.*
270. Copyright Act 2022 (n 27) s 48.
271. Ibid s 49.
272. *Nigerian Copyright Commission, 'Functions' <https://copyright.gov.ng/functions/> accessed 28 November 2025.*

policy advisement to the government on copyright issues and represents Nigeria in international copyright discussions.[273]

A significant responsibility of the NCC includes licensing and overseeing collective management organizations to ensure transparent operations and fair royalty distribution to rights holders.[274]

The Commission also carries out enforcement activities in collaboration with law enforcement agencies to combat piracy and counterfeiting.[275] These actions might involve market raids, the confiscation of infringing materials, and taking legal action against violators.

The 2022 Act grants the NCC enhanced powers and autonomy to fulfill its functions more effectively.[276] The Commission now has the authority to impose administrative penalties for specific copyright infringements, enabling a more efficient enforcement mechanism compared to relying solely on criminal prosecution.[277]

ii. **Collective Management Organizations (CMOs)**

CMOs are crucial in the copyright framework, managing rights and collecting royalties on behalf of copyright owners.[278] Various CMOs operate in Nigeria's different sectors, such as the Musical Copyright Society Nigeria (MCSN) for music, the Performing Musicians Employers' Association of Nigeria (PMAN) for performers'

273. Copyright Act 2022 (n 27) s 43.
274. Ibid ss 49, 41.
275. Ibid s 48.
276. Ibid s 41.
277. Daniel J Gervais, *Collective Management of Copyright and Related Rights (3rd edn, Kluwer Law International 2016) 1-20.*
278. Daniel J Gervais, *Collective Management of Copyright and Related Rights (3rd edn, Kluwer Law International 2016) 1-20.*

rights, and the Reprographic Rights Organization of Nigeria (REPRONIG) for reprographic rights.[279]

CMOs license the use of copyrighted works to users like broadcasters and educational institutions, collecting and distributing royalties to their members.[280] This collective management system is especially vital for rights that individual copyright owners would find challenging to license and enforce independently, such as public performance and broadcasting rights.[281]

The 2022 Copyright Act creates a comprehensive regulatory structure for CMOs, mandating registration with the Nigerian Copyright Commission and adherence to governance, transparency, and accountability criteria.[282] This regulation aims to tackle concerns about CMOs' management and ensure that they effectively serve the interests of rights holders.[283]

iii. Law Enforcement Agencies and the Judiciary

Effective enforcement of copyright law in Nigeria relies heavily on law enforcement agencies and the judiciary. The Nigeria Police Force, Nigeria Customs Service, and other security entities play roles in enforcing copyright laws, principally targeting piracy and counterfeiting.[284] The 2022 Copyright Act empowers customs officers to detain potentially infringing goods, serving as a crucial tool against the entry of pirated materials.[285]

279. Nigerian Copyright Commission, *'Collective Management Organizations' <https://copyright.gov.ng/cmo/> accessed 28 November 2025.*
280. Copyright Act 2022 (n 27) s 43.
281. Gervais (n 83) 45-67.
282. Copyright Act 2022 (n 27) ss 43-47.
283. Ibid.
284. Ibid ss 40-42.
285. Ibid s 42.

The judiciary interprets and enforces copyright laws through civil and criminal proceedings. Nigerian courts are empowered to handle copyright disputes, provide remedies for violations, and impose penalties on infringers.[286] The establishment of the Copyright Tribunal under the 2022 Act provides a specialized venue for expeditiously resolving copyright issues, potentially alleviating the burden on regular courts while cultivating expertise in copyright affairs.[287]

Judges and law enforcement officials need specialized training to effectively manage copyright cases due to the technical nature of copyright laws and the complexities involved in digital infringements.[288] Therefore, enhancing capacity among these actors is essential to ensure that legal and institutional frameworks translate into effective protections for copyright owners.[289]

iv. Policy and Advisory Bodies

Various government ministries and organizations contribute to molding copyright policy in Nigeria. The Federal Ministry of Justice provides oversight on legal policies, while the Federal Ministry of Information and Culture addresses copyright matters related to creative sectors.[290] The Federal Ministry of Trade and Investment incorporates intellectual property into economic development strategies and trade policies.[291]

286. Ibid ss 28-35.
287. Ibid ss 53-56.
288. WIPO, *'Judicial Capacity Building' <https://www.wipo.int/enforcement/en/activities/judges.html> accessed 28 November 2025.*
289. Ibid.
290. Federal Ministry of Justice (Nigeria), *'Functions' <https://justice.gov.ng/> accessed 28 November 2025.*
291. Federal Ministry of Trade and Investment (Nigeria), *'About Us' <https://fmiti.gov.ng/> accessed 28 November 2025.*

Professional associations, including the Intellectual Property Law Section of the Nigerian Bar Association and academic institutions offering intellectual property programs, play roles in policy formation through research, advocacy, and training.[292] Additionally, civil society organizations, including associations of authors, musicians, and other creators, advocate for rights holders' interests and engage in policy dialogues.[293]

This multi-stakeholder approach to copyright policy development is vital for ensuring that laws and policies harmonize the concerns of different stakeholders and reflect the realities of Nigeria's creative economy.[294] Continuous dialogue among government entities, industry players, rights holders, users, and the public is crucial for crafting copyright policies that effectively enhance creativity, innovation, and access to knowledge in the digital era.[295]

We have dwelt so much in this chapter, and it is therefore prudent to go to chapter 4, which is next in this dissertation.

292. Nigerian Bar Association*, 'Intellectual Property Law* Section' <https://nigerianbar.org.ng/> accessed 28 November 2025.
293. Copyright Act 2022 (n 27) s 50.
294. Ruth L Okediji, *'African Copyright and Access to Knowledge'* in *African Copyright and Access to Knowledge (Tshwane University of Technology Press 2010) 1-25.*
295. Ibid.

CHAPTER FOUR

AI-GENERATED CONTENT AND COPYRIGHT OWNERSHIP IN THE DIGITAL AGE

4.1 Ownership of AI-Generated Content under the Nigerian Copyright Act 2022

The Nigerian Copyright Act 2022 marks a notable legislative change in Nigeria's intellectual property law, superseding the Copyright Act of 1988 and incorporating provisions aimed at tackling modern issues in copyright.[296] The rise of artificial intelligence (AI) as a technology for generating content raises new and complex questions regarding authorship and ownership, challenging the limits of traditional copyright models. The Act broadly defines a "work" to encompass literary, musical, artistic works, cinematographic films, sound recordings, and broadcasts,[297] but does not directly address the status of works created independently by AI systems without human authorship.

According to section 1(1) of the Act, copyright applies to original works that have been captured in a definite form of expression.[298] The requirement for originality, adopted from common law jurisdictions, generally calls for a work to originate from an author and exhibit a minimum level of creativity, skill, or judgment.[299] This human-centric view of originality proves problematic when applied to content produced by AI, where creative acts could occur solely due to algorithmic programming with little human input after the initial setup.

296. Copyright Act 2022, s 70.
297. ibid s 51.
298. ibid s 1(1).
299. *University of London Press Ltd v University Tutorial Press Ltd [1916] 2 Ch 601; Ladbroke (Football) Ltd v William Hill (Football) Ltd [1964] 1 WLR 273.*

Section 2 of the Act attributes copyright ownership to the author of a work, defined as "the person who creates a work."[300] This definition presupposes that the creator is a natural or juristic person, leading to the essential inquiry: can an AI system be classified as an "author" or "person" under Nigerian law? The lack of explicit legislative guidance on this issue creates an important gap that impacts the legal recognition of AI-generated works. Without clear directives, it's necessary to explore whether current interpretive rules can accommodate AI authorship or if AI-generated works exist beyond the reach of copyright protection completely.

The Act does reference computer-generated works in section 2(3), indicating that for a literary, musical, or artistic work produced by a computer, "the author shall be deemed to be the person who arranged for the creation of the work."[301] This clause, adapted from the UK's Copyright, Designs and Patents Act of 1988,[302] presents a potential method for dealing with AI-generated content. However, applying this to contemporary AI systems generates interpretive issues about who qualifies as the individual responsible for making the "arrangements necessary for the creation." In the scope of generative AI, this might include the AI developer, the user entering prompts, the operator training the model, or even multiple contributors at once.

4.1.1 The Nigerian Copyright Act 2022 and its Adequacy for AI Regulation

The Nigerian Copyright Act 2022 (referred to as 'the Act') is a pivotal legal reform, replacing the Copyright Act of 1988 and implementing vital changes in the country's copyright laws. According to section 51, an 'author' is defined as the individual who creates a work,[303] and 'work' includes various forms such as literary, musical, artistic creations, cinematographic

300. Copyright Act 2022, s 2(1).
301. ibid s 2(3).
302. Copyright, Designs and Patents Act 1988, s 9(3).
303. Nigerian Copyright Act 2022, s 51.

films, sound recordings, and broadcasts.[304] Section 2 asserts that copyright applies to qualifying works that are original and in a material form.[305] Notably, the Act does not clarify if artificial intelligence (AI) systems can be treated as 'persons' capable of authorship or if works produced independently by AI, without significant human creative contribution, obtain copyright protection.

The originality requirement in section 2(1)(a) states that works must be ‘original’ to secure copyright protection. Historically, Nigerian courts have embraced a 'sweat of the brow' doctrine, allowing minimal intellectual effort rather than creativity as sufficient for originality. The Nigerian Court of Appeal, in Iyanda v Odu'a Investment Co Ltd,[306] confirmed that originality is determined by the work being the product of the author rather than a reproduction of another’s work. This raises critical inquiries: can AI systems fulfill this originality criterion when generating content algorithmically without human cognitive input or creative intent? The Act primarily assumes human authorship across its various provisions, especially concerning moral rights (sections 12-14)[307] and initial ownership rules (section 10).[308] Section 10(1) stipulates that 'the author of a work shall be the first owner of any copyright therein', barring exceptions for works created during employment or by commission.[309] In cases where an employee produces a work in the course of their work, copyright typically belongs to the employer unless stated otherwise. This employment doctrine could potentially inform ownership of AI-generated works: if AI is perceived as an advanced tool, then the individual or entity using it might claim ownership akin to an employer. However, this analogy falters under examination when AI operates with notable independence, making creative choices without human guidance.

The adequacy of the 2022 Act in addressing AI regulation needs to tackle three fundamental issues: determining authorship, allocating ownership, and clarifying infringement liability.

305.ibid s 2.
306.ibid s 2(1)(a).
307.*Iyanda v Odu'a Investment Co Ltd* (2005) LPELR-3061(CA).
308.Nigerian Copyright Act 2022, ss 12-14.
309.ibid s 10(1).
310.ibid s 10(2).

Unfortunately, the Act fails to provide clear directives on these aspects regarding AI-generated content. In contrast, the UK's Copyright, Designs and Patents Act 1988 section 9(3) identifies the individual organizing computer-generated works as the author,[310] a provision absent in Nigerian law. This legislative gap introduces significant uncertainty for Nigerian creative sectors increasingly leveraging AI technologies.

Moreover, the Act's duration clauses assume human authorship. Section 5 states that copyright for literary, musical, and artistic works lasts for the life of the author plus seventy years.[311] For works with multiple authors, the duration extends from the death of the last surviving author.[312] These regulations presuppose biological authors with limited lifespans, which does not align with non-human AI creators. The lack of specified duration rules for AI-generated works exacerbates these regulatory deficiencies.

4.1.2 Identification of gaps relating to AI-generated works

The Nigerian Copyright Act 2022 reveals various significant gaps when applied to AI-created content. Firstly, it does not define 'computer-generated work' nor recognize that such works may be developed without a direct human author. This situation contrasts with jurisdictions like the United Kingdom, which explicitly defines computer-generated works as those 'produced by a computer in circumstances without a human author'.[313] The absence of similar regulations in Nigerian law creates interpretive hurdles when AI systems independently produce outputs.

Secondly, there remains uncertainty concerning whether AI systems can be classified as 'authors' as per the Act's definition, which categorizes an author as 'the person who creates a work'.[314] In Nigerian law, 'person' usually applies to both natural and legal entities. The Interpretation Act Cap I23 Laws of the Federation of Nigeria 2004 expands 'person' to include

311. Copyright, Designs and Patents Act 1988 (UK) s 9(3).
312. Nigerian Copyright Act 2022, s 5(1).
313. ibid s 5(2).
314. Copyright, Designs and Patents Act 1988 (UK) s 178.
315. Nigerian Copyright Act 2022, s 51.

'any company or association or body of persons, corporate or unincorporated'.[315] Nonetheless, AI systems do not qualify as natural persons or legal entities with recognized rights. Recognizing AI as "persons" for copyright purposes would necessitate explicit legislative amendments or bold judicial decisions, neither of which have been seen in Nigeria.

Thirdly, the Act lacks a framework for determining ownership of works generated solely by AI. If AI is not considered an author and no human has asserted sufficient creative control to claim authorship, does the work immediately enter the public domain? Or should the rights belong to the AI developer, the user operating the AI, or the entity that developed the AI system? The absence of statutory clarity around these concerns creates commercial instability and may hinder innovation in sectors reliant on AI.

Fourth, the infringement regulations (sections 15-20)[316] operate under the assumption of human infringers. Section 15 forbids unauthorized reproduction, adaptation, distribution, and other restricted actions.[317] The Act imposes both civil and criminal liabilities for copyright infringement.[318] When AI generates outputs closely resembling existing copyrighted works—whether due to training on such works or algorithmic similarities—identifying liability becomes complicated. Is the AI developer liable for creating systems capable of infringement? Is the user responsible for deploying the AI in a manner that yields infringing output? The Act does not provide definitive answers.

Fifth, the moral rights framework (sections 12-14) presupposes human authors with reputational connections and interests tied to their works.[319] Section 12 guarantees authors rights to attribution and integrity, protecting against derogatory treatment of works.[320] These rights are founded on personality-based arguments for copyright predicated on natural law author theories. Works generated by AI challenge these principles: can non-sentient systems

316. Interpretation Act Cap I23 Laws of the Federation of Nigeria 2004, s 18.
317. Nigerian Copyright Act 2022, ss 15-20.
318. ibid s 15(1).
319. ibid ss 32-38 (civil remedies); ss 39-40 (criminal liability).
320. ibid ss 12-14.
321. ibid s 12.

possess reputational interests or experience emotional harm due to modifications? The Act's lack of commentary suggests these provisions were formulated without considering the notion of AI as an author.

Sixth, gaps concerning the requirements for copyright eligibility for AI-generated works persist. Section 2(1)(b) mandates that works be 'reduced to any material form'.[321] This requirement likely does not pose a challenge for AI outputs, which are commonly generated in digital formats. However, the originality criteria outlined in section 2(1)(a)[322] present more significant hurdles. If originality necessitates human intellectual endeavor or creativity—as suggested by Nigerian judicial precedents—then purely automated AI outputs may not fulfill this criterion.

Finally, the Act remains silent on the issue of AI training data and the use of copyrighted materials for training AI systems. Contemporary generative AI systems, such as GPT-4 or DALL-E, are trained using vast datasets often incorporating copyrighted content. Does this training amount to 'reproduction' or 'adaptation' under section 15?[323] Are there implied exceptions or fair dealing defenses present under sections 21-23[324] that might protect such usages? The Act's traditional fair dealing provisions—addressing research, personal study, criticism, review, and news coverage—were not delineated with AI training considerations in mind and might not suffice for these modern applications.

4.1.3 Socio-Economic Implications of AI-Generated Works

The rise of AI-generated content has significant socio-economic consequences for Nigeria's creative sectors and economy at large. The creative industry in Nigeria—including Nollywood, the music sector, advertising, and digital content creation—accounted for around 2.3% of GDP

322.ibid s 2(1)(b).
323.ibid s 2(1)(a).
324.ibid s 15.
325.ibid ss 21-23.

in 2020, employing millions of individuals.[325] The sector is rapidly evolving, with predictions indicating sustained growth as digital technologies become more accessible.[326] The integration of AI into content creation presents both challenges and prospects for this expansion.

Economically, AI-generated content could enhance productivity and lower production costs. AI tools are capable of generating scripts, composing music, creating visual arts, and producing marketing materials with an efficiency that outpaces human creators. This could democratize content creation, allowing smaller Nigerian firms to compete with larger entities. For example, emerging Nollywood producers might employ AI to create preliminary scripts, storyboards, or even synthesized performances, thus lowering initial investments and production timelines.

However, these efficiencies may lead to the displacement of human creative labor. As AI systems generate commercially viable content without human authorship, the demand for professional writers, musicians, designers, and other creatives may decline. This is particularly concerning in Nigeria, where joblessness rates remain high, and the creative industry is a crucial employment avenue for young people. The International Labour Organization has indicated that AI and automation technologies could replace workers in numerous sectors, including creative industries.[327] Nigeria's policy responses must aim to strike a balance between fostering innovation and protecting workers.

The implications for copyright further complicate these economic issues. If AI-generated works lack copyright protection and enter the public domain promptly, this could stimulate further creativity by enlarging the pool of publicly available materials. However, it would simultaneously remove economic motivations for entities investing in the development and deployment of AI for creative endeavors. Conversely, should copyright protection encompass AI-generated works, with ownership going to AI developers or users, it could open new commercial avenues while also

326. National Bureau of Statistics (Nigeria), *Nigerian Gross Domestic Product Report: Quarter Four 2020 (NBS 2021) 23-25.*
327. PricewaterhouseCoopers, *Entertainment & Media Outlook: Nigeria 20*21-2025 (PwC 2021) 8-12.
328. International Labour Organization, *World Employment and Social Outlook: Trends 2023* (ILO 2023) 45-67.

concentrating economic power in technologically proficient organizations, potentially sidelining human creators.

From a distributional justice perspective, the advantages and challenges of AI-generated content may not be distributed equitably. The leading multinational tech firms developing advanced AI systems are mainly situated in the United States, China, and Europe. If copyright laws safeguard AI-generated outputs, attributing ownership to these developers, wealth generated from AI-driven creativity would primarily benefit foreign entities rather than Nigerian creators and companies. This situation risks reinforcing existing digital inequalities and neo-colonial economic patterns in which African countries function mainly as consumers of technological advancements. Culturally, the ramifications are also significant. Nigerian creative expressions are crucial for cultural identity, preserving traditional knowledge, and contributing to national heritage. The global rise of the Afrobeats music genre exemplifies a distinct Nigerian cultural output. If AI systems trained predominantly on non-Nigerian content start generating works marketed as 'Nigerian' or 'African', this could dilute genuine cultural expression and jeopardize native creative practices. While the Copyright Act 2022 protects folklore and cultural heritage expressions (sections 28-30),[328] these provisions were not designed to tackle the AI appropriation of cultural elements.

Market dynamics further complicate this socio-economic scenario. A surge of AI-generated content may inundate markets with low-cost creative outputs, pushing down the prices of human-made works and threatening the sustainable business models of Nigerian creators. The music industry serves as an illustrative example: digital piracy and streaming platforms have drastically reduced artists' income, pushing them to rely more on live performances and secondary income channels. AI-generated music could further impair these revenue opportunities.

Consumer welfare concerns add another layer of complexity. AI-generated content might lower costs for Nigerians and businesses seeking creative outputs, improving access to cultural products.

329.Nigerian Copyright Act 2022, ss 28-30.

Educational institutions, for instance, could leverage AI to produce instructional materials at a fraction of the cost of hiring human authors. However, if AI-generated content lacks quality, authenticity, or emotional depth compared to human creativity, the expected consumer welfare benefits may be hollow.

Finally, Nigeria's ability to compete on the international stage in creative industries is partially contingent on its legal framework. If the 2022 Copyright Act is seen as inadequate in the face of AI advancements, it may deter foreign investments in Nigerian creative projects and AI innovations. Conversely, a careful, balanced regulatory strategy could position Nigeria as a leader in African copyright reform, attracting both investment and talent to the local market.

4.2.1 **Challenges And Emerging Issues**

The convergence of artificial intelligence and copyright law raises complex challenges that extend beyond classical legal boundaries. These challenges illustrate deeper conflicts between established legal frameworks centered on human creativity and the emerging technological capacities for autonomous content creation. Nigerian law must rise to these challenges as AI becomes more integrated into creative processes across diverse sectors.

One fundamental challenge is the pace of technological advancement compared to legislative response. AI technologies have progressed rapidly, with platforms like GPT-4, Midjourney, and DALL-E demonstrating remarkable generative abilities. Despite the 2022 legislative reforms, Nigerian copyright law risks becoming outdated, lacking provisions that anticipate such technological developments. Legislative processes usually follow multi-year timelines, while advancements in AI are often measured in just months. This disconnection results in a regulatory lag filled with ambiguity.

Moreover, this regulatory lag is aggravated by difficulties in forecasting. Predicting AI capabilities five years down the line can be highly speculative. Legislators face challenges in formulating regulations for technologies whose characteristics and functionalities are yet unknown. This

uncertainty suggests adaptive regulatory strategies—like principles-based legislation that permits judicial interpretation to evolve with technological advancements—might be more suitable than rigid regulations that quickly become obsolete. However, while principles-based legislation offers flexibility, it may also introduce excessive ambiguity and lead to commercial uncertainties that could hinder investment and innovation.

A significant challenge also arises from the international aspect of AI development and use against the localized nature of copyright law. AI systems are typically produced by multinational corporations, trained using globally sourced data, and disseminated via cloud platforms. For instance, a work generated by an AI operating in Nigeria, fueled by materials developed in the U.S. and trained on European datasets, brings up intricate legal questions regarding jurisdiction. Which country's copyright laws apply to such works? The Nigerian Copyright Act 2022 pertains to works produced in Nigeria or by Nigerian nationals,[329] but arises conceptual and practical challenges in determining where AI 'creates' content in distributed networks.

This jurisdictional complexity is compounded by enforcement issues. If an AI infringes Nigerian copyrights by producing outputs similar to protected works, and its developer, servers, and business operations are located offshore, enforcing Nigerian verdicts becomes problematic. International copyright agreements like the Berne Convention offer frameworks for transborder protection,[330] obligating member nations to extend copyright rights to works originating in other member states. However, these agreements rely heavily on the presumption of human authorship and offer limited guidance on AI-created content.

Evidentiary difficulties are also evident. Distinguishing whether a piece of work is human-created or AI-generated may become increasingly challenging, particularly as AI technology evolves. Some AI systems can emulate human creative styles with notable accuracy, while humans increasingly use AI tools in their creative endeavors, blurring the lines of authorship. If copyright protection is contingent on the level of human creativity in a work, courts will confront the need

330.ibid s 1(2)(a).
331.Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 24 July 1971) arts 3-4.

for reliable methodologies to evaluate creative contributions—something Imbued with subjective interpretation and evidentiary difficulties.

Connected to evidentiary questions are attribution issues. When works arise from human-AI collaboration, identifying specific creative inputs from human versus AI becomes a convoluted task. If a musician utilizes AI to devise melodies but manages, produces, and performs the final track, has the musician created a new work incorporating non-copyrightable AI elements, or has the AI independently generated a work that the musician merely enhanced? These inquiries hinge on practical consequences for ownership, licensing, and infringement assessments.

The tension between categorical rules versus contextual standards also emerges. Should Nigerian law adopt strict rules—such as 'AI-generated works without significant human input do not receive copyright protection'—or fluid standards in need of individual assessment? Categorical rules offer clarity and predictability, enabling more effective commercial planning and lowering litigation costs. However, they risk over-generalizing or under-generalizing, treating critically different cases alike. Contextual standards allow nuanced interpretation but foster uncertainty and increase transaction expenses.

Economic challenges are also paramount. The ideal incentive structure for AI-generated content remains hotly debated. Traditional copyright theory views exclusive rights as essential for encouraging creative production. If AI can autonomously generate content independent of economic incentives—given that machines do not respond to financial rewards—then copyright protection for AI outputs might be deemed unnecessary from an incentive perspective. Nonetheless, this analysis fails to account for the human investments needed in developing and utilizing AI systems. Without copyright safeguards for creations, financial recovery of these investments could be jeopardized, potentially limiting the growth of AI-related innovation. On the flip side, granting copyright protection to AI outcomes might yield excessive gains for AI developers, especially given AI's capacity for large-scale production at minimal additional costs.

Philosophical debates surrounding the definitions of creativity and authorship emerge as additional challenges. Copyright laws have traditionally held that human creativity is inherently valuable and merits protection. Extending copyright to works created without human input contests the anthropocentric views built into copyright laws. This situation spurs fundamental inquiries: What constitutes creativity? Must it involve consciousness, intent, or emotive expression? Are algorithmic outputs mirroring creative results legally recognized as 'creativity'? The answers to these philosophical queries have critical legal implications because the legal contours of copyright hinge on how creativity and authorship are understood.

4.2.2 **Definitional and Doctrinal Ambiguities**

The application of copyright law to AI-generated works is rife with definitional and doctrinal ambiguities that complicate its interpretation. Many of these ambiguities arise from the inherent vagueness of copyright's core principles and the novel nature of AI in relation to the historical trajectory of copyright law. Addressing these ambiguities is crucial for creating coherent legal structures, though many do not lend themselves to straightforward solutions.

A core ambiguity lies in defining 'authorship'. According to the Nigerian Copyright Act 2022, an author is 'the person who creates a work'.[331] This definition raises two pivotal questions: what does it mean to ‘create’ a work, and can non-persons (or non-human entities) be categorized as authors? Nigerian law has yet to provide conclusive answers to these inquiries in the context of AI. In relation to creation, traditional copyright doctrines imply that authorship necessitates intellectual conception and execution. The English court in University of London Press Ltd v University Tutorial Press Ltd[332] determined that an author is 'the individual who genuinely represents, creates, or manifests the idea, imagination, or fancy'. This notion underscores mental origination over simple mechanical execution. When applied to AI, this interpretation suggests that the person who conceives a notion for an AI-generated work—rather than the executing AI—might be regarded as

332.Nigerian Copyright Act 2022, s 51.
333.*University of London Press Ltd v University Tutorial Press Ltd [1916] 2 Ch 601, 608-609 (Peterson J).*

the author. However, this view becomes strained when AI systems autonomously create ideas, selecting themes, styles, and content without any human intervention beyond initial prompts.

The 'person' condition brings even greater difficulties. As mentioned, Nigerian law recognizes both natural and juristic individuals but has not classified AI systems as persons. Some legal scholars advocate for granting AI systems legal personhood in limited contexts, drawing parallels with corporate personhood.[333] Corporations, being legal entities, have been conferred personhood to facilitate economic management and liability allocation. In a similar vein, assigning limited personhood to AI could clarify authorship disputes by designating sufficiently autonomous AI systems as authors, subsequently attributing ownership and responsibilities to the human or corporate entities associated with the AI.

However, this extension of personhood to AI system raises substantial legal and policy issues. Unlike corporations managed by human shareholders and directors, autonomous AI systems may function independently of direct human guidance. Granting personhood to such systems may generate accountability voids when the AI engages in infringing or harmful behavior. Furthermore, personhood carries moral implications—acknowledging entities as rights-bearing subjects within legal frameworks. The question of whether AI systems deserve such recognition remains fiercely debated, with ramifications that transcend copyright law to encompass areas such as criminal liability, tort law, and constitutional rights.

Another definitional ambiguity revolves around 'originality'. The Nigerian Copyright Act demands that works be ‘original’ to receive protection,[334] yet does not define this term. Courts in Nigeria have adopted varying interpretations. Some rulings rely on the ‘sweat of the brow’ doctrine, necessitating only minimal labor or effort, while others imply originality may require a degree of creativity or intellectual judgment. In Sony Music Entertainment (Nig) Ltd v Uba,[335] the Federal

334. See Ryan Abbott, *'I Think, Therefore I Invent: Creative Computers and the Future of Patent Law' (2016) 57 Boston College Law Review 1079, 1099-1105.*

335. Nigerian Copyright Act 2022, s 2(1)(a).

336. Sony Music Entertainment (Nig) Ltd v Uba unreported, Suit No FHC/L/CS/1034/2008 (Federal High Court Lagos Division, 15 July 2010).

High Court articulated that originality 'implies that the work is not a copy of another but originates from the author'. This definition emphasizes independence, not creativity.

When applied to AI-generated content, the originality criterion gives rise to numerous questions. First, can algorithmic processes fulfill originality standards that are tailored for human creativity? If originality simply demands that a work not be derived from existing works—stressing independence—then AI outputs not reflecting prior works may qualify. Conversely, if originality presupposes human intellectual engagement or creativity, AI-generated outputs devoid of human intervention may not meet this requirement.

Secondly, the origin of originality is vital. If an AI system is trained on copyrighted works and produces results informed by this data, are those outputs 'original'? While not direct reproductions, they take on patterns and elements learned from training materials, paralleling how human creators are influenced by prior works. Yet AI processing differs fundamentally from human cognitive assimilation, and the legal implications of this difference remain largely unexplored. Thirdly, the necessary level of originality remains ambiguous. Some jurisdictions apply minimal originality thresholds, demanding that works originate from their author, while others require significant creativity. For instance, the European Union stipulates that works must reflect the 'author's own intellectual creation'.[336] The standard within Nigerian law is unclear, and its relevance to AI-generated works is even more uncertain.

Doctrinal ambiguities also surface concerning derivative works and adaptations. Section 51 of the Nigerian Copyright Act defines 'adaptation' broadly to incorporate various transformations of source works.[337] If an AI generates a work based on or influenced by existing copyrighted materials, does this action constitute an adaptation necessitating authorization from the original creator? The determination depends on the similarity between the AI output and the original work, the extent of alteration involved, and whether the use could qualify as fair dealing.

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337. Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L167/10, recital 16.

338. Nigerian Copyright Act 2022, s 51.

The provisions regarding fair dealing in sections 21-23[338] allow specific uses of copyrighted materials without express permission, including research, private study, criticism, review, and journalism. These exceptions were created with human users in mind, and their application to AI training and output generation remains undefined. Is educating an AI system on copyrighted works considered 'research' or 'private study'? Can an AI-generated piece that includes elements from copyrighted training data be regarded as 'criticism' or 'review'? The Act fails to deliver clear answers.

Furthermore, doctrinal ambiguities also touch on moral rights. Sections 12-14 grant authors rights concerning attribution and integrity.[339] The right of attribution defends authors' interests in being recognized as creators, while the right to integrity protects against derogatory treatment of works. Should AI systems be acknowledged as authors or co-authors, would they possess moral rights? Do non-sentient systems hold reputational interests that merit legal protection? If moral rights are deemed inapplicable to AI-generated works, might this create a dual-tiered copyright framework where some works enjoy full protection while others are confined to basic economic rights?

Finally, ambiguities are present concerning the duration of copyright on AI-generated works. The Act states that copyright for literary, musical, and artistic works lasts for the lifetime of the author plus seventy years.[340] For works with joint authorship, the term is calculated from the death of the last surviving author.[341] These stipulations assume biological authors with limited lifespans. If AI systems are viewed as authors, what would be the duration of copyright—indefinitely, since AI does not 'die,' or fixed from the creation date? The Act does not clarify this point.

4.2.3 **The Human Authorship Requirement and its Limitations**

The human authorship requirement—the principle that only human-created works deserve copyright protection—is a core but increasingly challenged tenet in copyright law. This guideline

339.ibid ss 21-23.
340.ibid ss 12-14.
341.ibid s 5(1).
342.ibid s 5(2).

embodies anthropocentric beliefs regarding the essence and worth of creativity, yet advancements in AI are prompting a reevaluation of these notions by demonstrating that non-human systems can produce outputs indistinguishable from human-generated content in numerous contexts.

The philosophical underpinnings for the human authorship condition trace back to natural rights theories of property and arguments promoting personality-based justifications for copyright. John Locke's labor theory of property suggests individuals obtain property rights by intermixing their labor with unowned resources.[342] Applied to copyright, this theory infers that authors should own their creative outputs since they invested intellectual labor in crafting them. However, this rationale is contingent on human laborers; AI systems, which lack personhood and moral agency, cannot claim Lockean property rights.

Theories based on personality, associated with Kant and Hegel, justify copyright as safeguarding authors' expressions of personality and promoting self-actualization through creative endeavors.[343] These approaches underscore the connection between creators and their outputs, regarding creative works as extensions of their authors' identities. Once again, this justification assumes human creators, who possess personalities and aspirations—traits that AI systems do not embody.

Utilitarian or economic theories, which prevail in Anglo-American legal frameworks, rationalize copyright as a necessary incentive for fostering creativity. Without exclusive rights enabling creators to recoup their investments, socially beneficial works may be inadequately supplied.[344]

This perspective could endorse copyright protection for AI-generated works should such protection foster investments into AI development. However, it also challenges the necessity of such protection: if AI can produce content independently of monetary motivations, then offering copyright safeguards for AI outputs may be economically ineffective.

Assessing the human authorship requirement in practice reveals its limitations within the context of AI. Copyright offices and courts across various jurisdictions typically maintain that copyright

343. John Locke, Two Treatises of Government (first published 1689, Peter Laslett ed, Cambridge University Press 1988) Second Treatise, ch V, para 27.
344. See generally Margaret Jane Radin, *'Property and Personhood' (1982) 34 Stanford Law Review 957.*
345. William Landes and Richard Posner, *'An Economic Analysis of Copyright Law' (1989) 18 Journal of Legal Studies 325, 326-333.*

necessitates human authorship. The U.S. Copyright Office, for instance, has consistently asserted that copyright protection is reserved for works crafted by human beings.[345] In Naruto v. Slater,[346] the U.S. Ninth Circuit determined that copyright law applies solely to human-crafted works, dismissing copyright claims for photographs taken by a monkey. While this case dealt with animal authorship rather than AI, its reasoning—highlighting copyright's textual referents to 'persons' and 'humans'—suggests that similar outcomes may arise for AI-generated outputs.

The constraints of the human authorship requirement become evident when considering the collaborative nature of human-AI creation. Contemporary creative processes increasingly incorporate AI assistance: writers utilize AI for idea generation and drafting; musicians employ AI for composition and arrangement; visual artists adopt AI for imagery creation and processing. In these scenarios, delineating where human creativity ends and AI contribution begins can be complicated. If human authorship hinges on creative elements arising from human intellect, then substantial AI involvement could disqualify such works from copyright protection. Conversely, if minimal human engagement suffices—such as submitting prompts to AI systems or curating among AI-generated possibilities—the human authorship requirement becomes easily met, yet may risk dilution.

The standard of 'sufficient creative control' poses one potential solution to this dilemma. Under this framework, individuals exercising appropriate creative oversight over AI-generated outputs may qualify as authors. For example, a photographer who applies AI tools to enhance images while making artistic decisions regarding composition, lighting, and subjects may be recognized as the author. However, reaching a consensus over what constitutes 'sufficient' creative control remains a contentious issue. Is the act of directing a prompt such as 'create a sunset over Lagos' adequate? What about the iterative refinement of prompts inspired by AI outputs? Such inquiries remain unresolved and likely necessitate case-by-case adjudication.

346. US Copyright Office, Compendium of US Copyright Office Practices (3rd edn, 2021) § 306.
347. Naruto v Slater 888 F 3d 418 (9th Cir 2018).

Moreover, the human authorship requirement encounters international comparisons and challenges. The Berne Convention, a foundational global copyright treaty, does not explicitly mandate human authorship.[347] It broadly defines protectable works and remains silent on whether creators must be human. This absence may indicate that the Convention's authors could not justify the rise of AI advancements, yet it also leaves interpretative leeway for nations to adopt diverse approaches. Some jurisdictions, notably the United Kingdom, have adjusted human authorship stipulations for AI-purposed edits, creating specific provisions for computer-generated works.[348]The UK Copyright, Designs and Patents Act 1988 assigns copyright to computer-generated works, identifying 'the individual responsible for the arrangements necessary for creating the work' as the author.[349]

Nigeria is faced with a critical decision regarding copyright policy: it can either uphold stringent human authorship requirements, thus excluding works generated solely by artificial intelligence (AI) from protection; implement a framework akin to the UK's, which recognizes the humans involved with AI systems as authors; or completely eliminate human authorship criteria, possibly designating AI systems themselves as authors. Each of these alternatives has unique benefits and drawbacks.

Maintaining strict human authorship aligns with the traditional principles of copyright law, ensuring that protection is limited to human creativity and respecting the arguments for copyright based on personality rights and natural rights. However, it may inadvertently encourage creators to engage minimally with AI-sourced outputs to meet authorship requirements—a practice known as "authorship laundering." This approach could also limit innovation driven by AI by withholding protection from significant contributions.

348.Berne Convention (n 28) arts 2-3.
349.Copyright, Designs and Patents Act 1988 (UK) s 9(3).
350.ibid s 178.

In contrast, adopting UK-like provisions offers a flexible compromise, allowing for human authorship while recognizing the role of AI technology. By considering those who organize AI-generated works as authors, this model retains the human-centric principles of copyright, while also providing legal clarity and financial incentives for utilizing AI. On the downside, there are concerns about the sufficiency of mere organization as a creative contribution justifying authorship, and it risks over-protecting AI outputs that involve minimal human creativity.

Completely discarding human authorship criteria by acknowledging AI systems as authors would most clearly reflect AI's capabilities but would necessitate substantial doctrinal changes, challenging established beliefs about copyright. This approach raises intricate issues regarding the personhood of AI, moral rights, and intellectual property justifications. However, such perspectives remain contentious and have not been implemented by leading jurisdictions.

4.2.4 **Enforcement Challenges in the Digital Environment**

The digital landscape poses significant enforcement hurdles for copyright law, particularly regarding AI-generated material. Rapid and low-cost reproduction and distribution facilitated by digital technology, combined with the automated content generation by AI, complicate the identification of authorship.

A key enforcement difficulty is the detection and identification of copyright infringement. Traditional infringement cases typically involve identifiable human actors—either individuals or entities that unlawfully reproduce, distribute, or adapt protected works. The digital realm complicates this, as infringement can occur anonymously or pseudonymously, involves vast quantities of unauthorized copies, and crosses international borders by exploiting jurisdictional loopholes. AI compounds these challenges; when AI generates outputs that resemble protected works, discerning potential infringement necessitates evaluating the similarity between these AI

outputs and existing copyrighted materials—an intricate task given the sheer volume of AI-generated content and the likelihood of absent human infringers.

Additionally, the training of AI may infringe copyright if it relies on datasets containing copyrighted materials without proper authorization. Many contemporary generative AI systems utilize extensive datasets collected from the internet, which frequently incorporate protected texts, images, music, and more. The legal question arises: does this training process constitute "reproduction" or "adaptation" under copyright law? If affirmed, AI developers could face liability, although defenses such as fair dealing or fair use may be claimed, asserting the transformative nature of the training that does not replace original works. Nigerian law's provisions for fair dealing (sections 21-23)[350] were not tailored for AI training and provide scant guidance, creating uncertainty regarding whether training qualifies as 'research' or 'private study' permissible under these laws.

Attribution issues further complicate enforcement. Determining the potential infringement by AI-generated content involves comparing outputs with existing copyrighted works to assess substantial similarity. AI systems may produce outputs that unintentionally resemble protected works without direct copying. These outputs often derive from statistical patterns observed during training, which may incorporate aspects of copyrighted works, commenting on similarity that does not stem from traditional copying. Copyright law typically demands proof that a defendant accessed the plaintiff's work and that substantial similarity exists.[351] Access becomes clearer if the AI's training data contained the plaintiff's work, but establishing substantial similarity grows more complex when similarity results from algorithmic mechanisms rather than human replication.

Liability attribution is another concern. If AI-generated content infringes copyrights, who is responsible? Potential defendants could include the AI developer (for creating the infringing system), the AI trainer (for training on infringing data), the deployer (for generating infringing outputs), and the end-user (for initiating the AI to produce such content). Nigerian copyright law

351.Nigerian Copyright Act 2022, ss 21-23.
352.*Bridgeport Music Inc v Dimension Films* 410 F 3d 792, 801 (6th Cir 2005).

holds individuals accountable for unauthorized acts.[352] Section 15 prohibits unauthorized reproduction, adaptation, and distribution, but lacks clarity on the responsibilities of multiple contributors to infringement via AI systems.

Secondary liability doctrines—like contributory infringement and vicarious liability—could fill this void. According to these doctrines, those who facilitate or benefit from infringement might be held accountable even without direct infringement. Nevertheless, Nigerian copyright law does not explicitly endorse secondary liability doctrines, although they might emerge through judicial interpretation. Determining secondary liability in AI-related infringement demands that courts to ascertain whether AI developers or users had knowledge of the infringement and the means to regulate infringing actions.

Intermediary liability is another critical aspect of copyright enforcement. Digital platforms hosting AI-generated content might be liable for infringing materials uploaded by users. The Nigerian Copyright Act 2022 provides guidelines on online service provider (OSP) liability, including safe harbor provisions for OSPs fulfilling specific criteria.[353] Section 43 limits OSP liability for infringing materials stored or transmitted through their networks, provided they lack actual knowledge of any infringement, act quickly to remove infringing content upon notification, and uphold policies against repeat infringers.[354] These provisions resemble the US Digital Millennium Copyright Act's safe harbor stipulations.[355] However, their applicability to platforms that also develop or operate AI systems generating potentially infringing content remains uncertain.

Jurisdictional issues exacerbate enforcement challenges. AI systems function globally, where development, training, deployment, and use often span different jurisdictions. For instance, if an AI system built in the US, trained using datasets from Europe, and deployed on Asian servers produces content violating Nigerian copyrights, enforcing Nigerian law becomes difficult. Nigeria might claim jurisdiction based on the effects of infringing content within its borders (if distributed

353. Nigerian Copyright Act 2022, s 15(1).
354. ibid s 43.
355. ibid s 43(1)-(3).
356. Digital Millennium Copyright Act 1998, 17 USC § 512.

there), but securing personal jurisdiction over foreign defendants and enforcing judgments internationally can pose significant challenges.

International enforcement strategies provide limited assistance. The Berne Convention mandates member states to uphold national treatment and minimum protection standards,[356] but enforcement remains geographically constrained, requiring rights holders to pursue cases in each jurisdiction of infringement. The WIPO Copyright Treaty and WIPO Performances and Phonograms Treaty offer international copyright frameworks for the digital realm,[357] yet Nigeria has not ratified these treaties,[358] hindering their relevance.

Remedial adequacy also raises enforcement issues. Traditional copyright remedies typically encompass injunctions, damages, and accounts of profits.[359] In the context of AI, tailoring injunctions poses a challenge. If an AI system has been trained on infringing data, should correcting the situation necessitate retraining the system—a process that is potentially resource-intensive and technically complex? If AI outputs infringe, should injunctions prevent all future usages of the AI system or limit restrictions to producing similar results? Furthermore, assessing damages is complicated. As AI systems can produce infringing outputs on a massive scale and at minimal costs, traditional damage calculations (based on either actual harm or statutory rates per infringement) may either inadequately compensate rights holders or impose excessive liabilities on defendants.

Lastly, the practical limitations of resources significantly undermine enforcement. Enforcement in Nigeria's copyright system is hindered by chronic underfunding, with the Nigerian Copyright Commission lacking the personnel, funding, and technological means necessary for effective monitoring in the vast digital landscape.[360] The automation capacities of AI exacerbate these constraints by enabling widespread infringement that exceeds human enforcement capabilities.

357. Berne Convention (n 28) art 5(1).
358. WIPO Copyright Treaty (adopted 20 December 1996, entered into force 6 March 2002) arts 11-12.
359. As of December 2024, Nigeria has not deposited instruments of ratification for either the WCT or the WIPO Performances and Phonograms Treaty (WPPT).
360. Nigerian Copyright Act 2022, ss 32-34.
361. See generally Nigerian Copyright Commission, *Annual Report 2022 (NCC 2023) 15-18.*

4.2.5 **Ethical, Moral and Policy Concerns**

The rise of AI-generated content introduces profound ethical, moral, and policy dilemmas that surpass mere legal questions. These issues touch on core values such as human dignity, creative labor, cultural integrity, and distributive justice. Nigerian copyright policy must contend with these complexities to create frameworks that are not only legally coherent but also ethically advanced and socially responsible.

A fundamental ethical issue pertains to the valuation of human creativity. Historically, copyright law has placed substantial value on human creativity, viewing it as deserving of protection and social acknowledgment. This perspective reflects a broader cultural commitment to human exceptionalism—the belief in the unique dignity and worth of human beings. Granting copyright protection to AI-generated works may inadvertently diminish the value of human creativity by equating it with machine outputs. Such implications could foster troubling societal narratives: that human creativity serves merely as a tool for economic gain rather than holding intrinsic value, that machines can accurately mimic or replace distinctly human traits, and that the law fails to differentiate between human and machine contributions.

These considerations are especially resonant in African contexts, where historical injustices tied to colonialism and neo-colonialism have often invalidated local creativity and knowledge systems. The prospect of AI systems, primarily trained on Western materials, producing outputs labeled as 'Nigerian' or 'African' could further alienate genuine African creative voices. The provisions within the Nigerian Copyright Act aimed at safeguarding folklore and cultural heritage[361] reflect a commitment to preserving cultural identity. Extending copyright protection to AI-generated outputs without adequate cultural safeguards may threaten these commitments.

Moral concerns also emerge regarding attribution and recognition. Human creators place significant value on being acknowledged as the authors of their works, which affirms their identities and social roles regardless of financial returns. If AI-generated content lacks proper attribution or is

362.Nigerian Copyright Act 2022, ss 28-30.

inaccurately attributed to human creators, it could mislead audiences and deprive human authors of the recognition they deserve. Conversely, attributing authorship to AI systems may seem conceptually perplexing or morally questionable, ascribing human-like characteristics to machines.

The moral rights framework embedded in sections 12-14 of the Nigerian Copyright Act[362] illustrates these concerns by granting rights of attribution and integrity to authors, irrespective of copyright ownership. However, applying moral rights to AI-generated works raises dilemmas: Do AI systems possess the reputational interests that moral rights protect? Can they suffer harm from derogatory treatment of their outputs? If not, this would allow AI-generated works to enjoy copyright's economic benefits while neglecting moral aspects—creating a dissonance that challenges the consistency of copyright law.

Concerns about employment and labor displacement are also prominent in this context. As previously mentioned, AI-generated content poses a threat to human creative endeavors. If AI can produce commercially viable content at lower costs than human creators, market dynamics will incentivize the replacement of human workers with machines. This scenario poses a risk to incomes, particularly in developing regions like Nigeria where creative industries offer essential job opportunities for educated youth. Copyright policy must navigate the tensions between promoting innovation and protecting employment rights. Extending copyright protection to AI-generated works may hasten automation, rendering human creativity less economically competitive, whereas withholding that protection could delay displacement by limiting AI's financial viability for content generation.

Distributive justice concerns compound worries related to labor. The benefits of AI-driven content generation are likely to concentrate among technology firms creating sophisticated AI systems, largely located in affluent countries. Conversely, the costs—including job loss and cultural standardization—may disproportionately burden creators in developing nations. Therefore, copyright policy should ideally address these inequities, possibly through measures aimed at

363.ibid ss 12-14.

redistributing the wealth generated by AI or reserving specific creative areas for human authors. Further policy considerations arise regarding market dominance and monopolistic behavior. The development of AI demands extensive computational resources, data access, and technical expertise—assets concentrated within a few tech conglomerates. If copyright protection increases the financial advantage for AI-generated content, this could entrench these corporations' dominance, leading to concerns about market competition, consumer well-being, and innovation dynamics. The realms of competition and copyright policy intersect here: the grant of exclusive rights could potentially foster monopolistic tendencies if too broadly applied, while insufficient protection might hinder innovation.

Issues of transparency and accountability also warrant attention. AI systems often function as "black boxes," with their decision-making pathways concealed even from their creators. If copyright protections are extended to AI-generated content, establishing authorship, ownership, and infringement may necessitate understanding the operational mechanics of AI systems—levels of complexity that could be proprietary and inaccessible. Regulatory frameworks might therefore mandate disclosure of AI involvement in content creation, enabling clearer judgments on authorship and facilitating enforcement, but such requirements could also impose burdens on creators and heighten privacy issues.

Concerns regarding AI bias and discrimination present additional challenges. AI systems based on biased data may inadvertently propagate societal biases in their outputs. If AI-generated content is widely disseminated and receives copyright protections, this could normalize harmful stereotypes. Copyright law generally maintains a neutral stance towards content, safeguarding expressions irrespective of viewpoint. Nonetheless, the neutrality of copyright may be called into question if it allows for the spread of damaging biased content. Nigerian policymakers may need to contemplate whether the extension of copyright protection should hinge upon non-discrimination principles, or if alternative legal frameworks (such as equality laws or regulations against hate speech) would better address bias issues.

Finally, there is the pressing consideration of the environmental impact attributed to AI technologies. The training of large AI systems comes with significant demands on computational resources and energy, contributing to carbon emissions and environmental harm. Though environmental concerns extend beyond copyright law, copyright policy influences AI development incentives and thus indirectly affects environmental outcomes. A holistic evaluation of the societal costs and benefits of AI-generated content must encompass ecological factors alongside economic, cultural, and ethical issues.

4.3.1 Copyright Protection of AI Works in Comparative Perspectives

Investigating how various jurisdictions handle copyright for works created by AI uncovers a spectrum of regulatory methods that reflect differing policy objectives, legal histories, and technological environments. A comparative study can offer insights into copyright reform in Nigeria by pinpointing effective practices and potential pitfalls. This section reviews the stances taken by key jurisdictions, including the United States, United Kingdom, European Union, and selected countries from Asia and Africa, ultimately deriving relevant lessons for Nigeria.

4.3.2 Copyright Protection of AI Works in the United States

The United States has historically been at the forefront of copyright discussions surrounding technological advancements. Its treatment of AI-generated works is heavily influenced by longstanding principles favoring human authorship. The U.S. Copyright Office has repeatedly asserted that for a work to be protected, it must have a human author, explicitly excluding works generated solely by machines from copyright protection.

Through various policy declarations, the Copyright Office has articulated that it will not grant copyright registration for outputs produced by machines operating independently of human creative influence.[363] In a landmark case, the Office denied the application for 'A Recent Entrance to Paradise,' an artwork the applicant claimed was generated autonomously by an AI named

364.US Copyright Office, *Compendium* (n 43) § 313.2.

'Creativity Machine'. The conclusion was that the artwork lacked the essential human authorship, as copyright law is designed to safeguard the results of human intellectual effort. This ruling was contested in federal court in Thaler v. Perlmutter.[364] The U.S. District Court in the District of Columbia upheld the Copyright Office's denial, affirming that human authorship is a fundamental criterion of copyright law, rooted in constitutional provisions empowering Congress to grant exclusive rights to 'authors', statutory language referring repeatedly to human creators, and judicial history that underscores human creativity.[365] The court dismissed the notion that AI authorship could be considered an extension of corporate authorship or that the utilitarian aspects of copyright warrant protection for AI outputs.

While the Thaler decision solidifies the requirement for human authorship in U.S. law, it leaves ambiguous issues concerning collaborative creations involving both humans and AI. According to guidance provided by the Copyright Office, works that include AI-generated components may be eligible for copyright if they demonstrate enough human creative contribution.[366] The Office assesses if 'traditional elements of authorship' were produced by a human, considering the degree of human creative influence on the work's expression. This analysis is inherently nuanced and tailored to the specific context.

For example, a visual artist using AI to create background elements while personally designing foreground figures may attain copyright protection for their contributions, though not for the AI-generated parts. Conversely, merely inputting a simple command to an AI without altering its output might lead to a denial of copyright due to insufficient human authorship. The Copyright Office has also indicated that 'selecting or arranging' AI outputs can qualify as copyrightable authorship if it's executed with adequate creativity,[367] akin to how compilation and collective works are treated where selection and arrangement can be protectable, even if the individual elements are

365. *Thaler v Perlmutter No 22-cv-1564, 2023 WL 5333743 (DDC 18 August 2023).*
366. ibid 4-8.
367. US Copyright Office, *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence* (*16 March 2023) 3-5.*
368. ibid 5-6.

not.[368] Such an approach seeks to reconcile conflicting concerns: upholding copyright's human-centric foundation while allowing for the legitimate application of AI tools in the creative sphere. However, it invites significant unpredictability and possible legal challenges. Determining the extent of human creativity necessary for authorship involves subjective assessments—judgments that courts and registration officials may apply inconsistently. Furthermore, challenges exist in evidencing the division of contributions between human and AI, particularly given that creators might exaggerate their roles for financial gain.

The U.S. stance on AI training datasets also deserves attention. Several lawsuits initiated in 2023-2024 have contested AI companies' usage of copyrighted materials for training generative AI systems. In Andersen v. Stability AI[369], authors allege that various AI firms harvested billions of copyrighted images from the internet for training purposes, violating reproduction rights and the rights attached to derivative works. Similarly, in The New York Times v. OpenAI[370], the Times contends that OpenAI utilized its articles without consent, enabling the AI to produce outputs competing with the newspaper's journalism.

These issues present novel questions about fair use. The fair use doctrine[371] allows unauthorized use of copyrighted content for transformative purposes, such as commentary or research. AI companies argue that their training processes are significantly transformative—not using the copyrighted works for their expression but instead for learning the statistical patterns that enable original creation.[372] They also assert that AI training yields social benefits, promoting knowledge and enabling innovative applications. Contrarily, plaintiffs argue that such training generates commercial substitutes for copyrighted works, causing market harm, and challenge whether training can be considered sufficiently transformative, noting that AI outputs often closely resemble the training materials.

369. 17 USC § 103(b).
370. *Andersen v Stability AI Ltd No 3:23-cv-00201-WHO (ND Cal, filed 13 January 2023).*
371. *The New York Times Co v Microsoft Corp No 1:23-cv-11195-SHS (SDNY, filed 27 December 2023).*
372. 17 USC § 107.
373. *Campbell v Acuff-Rose Music Inc 510 US 569, 579 (1994); Authors Guild v Google Inc 804 F 3d 202 (2d Cir 2015).*

U.S. courts have yet to settle these fair use questions definitively, but early decisions suggest that judges view these complexities as substantial and not suitable for early dismissal.[373] The outcomes of these cases will significantly impact AI development. Broad fair use protection for training could foster AI innovation at the risk of undermining copyright owners' rights, whereas restrictive protection would necessitate licensing agreements, raising costs and potentially limiting AI's functionality to well-funded developers capable of affording such licenses.

4.3.3 The Position in the United Kingdom and European Union

The United Kingdom and European Union present differing frameworks for AI-generated content, stemming from their unique legal systems and policy objectives. The UK has specifically addressed computer-generated works since 1988, while the EU has recently begun to confront the regulation of AI through various legislative measures.

United Kingdom

The UK's Copyright, Designs, and Patents Act of 1988 (CDPA) includes provisions that uniquely protect computer-generated works. Section 9(3) defines a computer-generated work as one produced by a computer without human authorship, attributing authorship to 'the person by whom the arrangements necessary for the creation of the work are undertaken.'[374] Copyright for these works lasts fifty years from their creation, shorter than the life-plus-seventy-years term for human-authored works.[375]

These provisions were established in the 1980s to inspire investment in computer technology, acknowledging that computer-generated outputs warrant copyright but differ fundamentally from human-authored works by having a shorter duration and attributing authorship to those arranging the outputs rather than the machines.

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374. See *Andersen v Stability AI (n 67), Order Granting in Part and Denying in Part Motion to Dismiss (27 October 2023).*

375. Copyright, Designs and Patents Act 1988 (UK) s 9(3).

376. ibid s 12(7).

However, the application of section 9(3) to contemporary AI systems remains unclear. Questions arise regarding the identification of 'the person by whom the arrangements necessary for the creation of the work are undertaken.' Is it the AI developer, the entity that trained the AI, or the user who provided input? Limited judicial guidance has been offered. The court in Nova Productions Ltd v. Mazooma Games Ltd[376] ruled that the individual who arranges a work is configured as the author—in that case, the individual playing the game whose inputs shaped the audiovisual output. This suggests that the user giving prompts to the AI might be the author, yet it remains uncertain for autonomous AI systems with minimal user control.

The UK's approach has garnered both support and criticism. Advocates assert that it offers legal clarity and economic motivation for AI development while preserving human authorship in a diminished form, attributing creativity to the human arranger rather than solely to the machine. Conversely, critics argue that it too readily extends copyright protection to works with scant human creativity, potentially overprotecting AI outputs and eroding the creative foundations of copyright. Some question whether section 9(3) appropriately addresses current AI systems, which exhibit far greater autonomy than early computing systems.

Recent consultations from the UK government have explored whether copyright law should be revised for AI technologies.[377] A consultation in 2021 suggested widening exceptions for text and data mining to aid AI training, but these changes were ultimately shelved due to stakeholder pushback.[378] The UK Intellectual Property Office also reiterated that section 9(3) pertains to AI-generated works, warning that liability for infringement could arise if AI outputs greatly replicate copyrighted materials.[379]

European Union

Conversely, the European Union has yet to implement specific copyright laws addressing AI-generated works, maintaining the requirement of human authorship. EU copyright law is designed

377. Nova Productions Ltd v Mazooma Games Ltd [2007] EWCA Civ 219, [99]-[104].
378. UK Intellectual Property Office, *Artificial Intelligence and Intellectual Property: Copyright and Patents - Government Response to Consultation (June 2022).*
379. UK IPO, *Copyright and Artificial Intelligence: Summary of Responses (October 2022) 6-12.*
380. UK Intellectual Property Office, *Artificial Intelligence and Copyright (29 June 2022).*

to align through various directives, emphasizing that works must reflect the 'author's own intellectual creation'—a criterion that stresses human creativity.[380] The Court of Justice of the European Union (CJEU) has consistently maintained that copyright protection requires the expression of the author's original and creative decisions, embodying their personality.[381] This framework explicitly excludes AI systems, which lack emotional and creative agency, from being regarded as authors within EU law.

However, the EU has tackled AI-related copyright matters via several legislative endeavors. The Digital Single Market Directive (2019) features provisions that enable text and data mining for scientific and commercial aims, conditional upon the rights holders' ability to opt-out.[382] Although these provisions may promote AI training by allowing the reproduction of copyrighted works for data mining, their exact applicability to AI training remains open to interpretation and varies among member states.

Moreover, the EU established the AI Act in 2024, marking the world's first comprehensive regulatory framework for artificial intelligence.[383] While primarily focused on AI's safety, transparency, and accountability rather than copyright, the AI Act includes stipulations requiring the identification of copyrighted training materials and transparency concerning AI-generated content.[384] Article 53 mandates that providers of general-purpose AI models implement policies that respect copyright, necessitating the publication of thorough summaries detailing the content of training data. These transparency measures may aid copyright enforcement by enabling rights holders to ascertain if their works were involved in training and to assess potential infringements.

The AI Act also requires labeling AI-generated content as such,[385] allowing audiences to differentiate between human-created and machine-generated works. This addresses concerns about

381. Directive 2001/29/EC (n 34) recital 16.
382. *Case C-5/08 Infopaq International A/S v Danske Dagblades Forening [2009] ECR I-6569, para 45; Case C-145/10 Painer v Standard Verlags GmbH [2011] ECR I-12533, para 89.*
383. Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market [2019] OJ L130/92, arts 3-4.
384. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence [2024] OJ L 184/1 (AI Act).
385. ibid art 53.
386. ibid art 50.

misrepresentation and attribution, although it does not settle the issue of copyright ownership. The complete implementation of the Act is ongoing, with various technical standards and enforcement mechanisms still in development.

4.3.4 Approaches from the European Union

In addition to the AI Act, the EU has formulated AI governance frameworks through various policy initiatives and ethical standards. The EU's approach stresses fundamental rights, human dignity, and democratic values, reflecting its established legal principles and political commitments. In 2019, the European Commission's High-Level Expert Group on AI released 'Ethics Guidelines for Trustworthy AI,' outlining principles such as human agency, oversight, technical resilience, privacy, transparency, fairness, accountability, and social welfare.[386] Although non-binding, these guidelines influence EU policy-making and establish frameworks for responsible AI use. The emphasis is on ensuring AI remains 'human-centric,' preserving human dignity and autonomy.[387]

This principle supports the ongoing requirements for human authorship in copyright law, ensuring AI enhances instead of replacements human creativity.

The European Parliament has also passed resolutions regarding intellectual property rights for AI technologies,[388] advocating for clarification of copyright's application to AI-generated content while underscoring the need for copyright to protect human ingenuity. Some Members of Parliament have proposed creating sui generis protection systems for AI outputs, distinct from copyright but offering limited exclusive rights to encourage AI development. However, these proposals have yet to convert into law.

Member states within the EU maintain some discretion in implementing copyright legislation, resulting in disparities across different jurisdictions. Some states have introduced or considered AI-specific copyright changes, while others adhere to traditional frameworks. This fragmentation poses

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387. European Commission High-Level Expert Group on AI, *Ethics Guidelines for Trustworthy AI (8 April 2019).*

388. ibid 4-10.

389. European Parliament, *Resolution on intellectual property rights for the development of artificial intelligence technologies (2020/2015(INI)) (20 October 2020).*

challenges for AI implementation across the EU internal market, potentially requiring further harmonization efforts.

4.3.5 Asian Approaches (China, Japan, India)

Asian jurisdictions have taken varied approaches to AI and copyright, influenced by different technological strategies, economic goals, and legal traditions. Analyzing the frameworks in China, Japan, and India reveals alternative regulatory models and their potential impacts.

China

China has risen as a leader in AI, with government strategies advancing AI development as a critical economic and national security priority. Chinese copyright law does not specifically mention AI-generated works, but courts are beginning to address these issues in litigation.

In *Feilin v. Baidu*, a Beijing court evaluated whether an article produced by Baidu's 'Dreamwriter' AI could receive copyright protection.[389] The court ruled that copyright does not extend to the AI-generated article due to the lack of human authorship. Nonetheless, it hinted that Baidu might seek protection under unfair competition laws, which stop others from exploiting the value of Baidu's investment in its AI system.[390]

In **Shenzhen Tencent v Shanghai Yingxun (2020),** a Shenzhen court differed in its findings, ruling that an AI-generated financial report was indeed copyrightable.[391] This court emphasized that despite the AI's autonomous generation of the report, Tencent's employees contributed creatively by selecting topics, data sources, and parameters. The

390. *Feilin Law Firm v Baidu Beijing Internet Court, No (2018) Jing 0491 Min Chu 239 (December 2019).*
391. ibid.
392. *Shenzhen Tencent Computer System Co Ltd v Shanghai Yingxun Technology Co Ltd Shenzhen Nanshan District People's Court, No (2019) Yue 0305 Min Chu 14010 (November 2019).*

court attributed authorship to Tencent, concluding that sufficient human input justified copyright protection.[392]

These conflicting decisions showcase the ambiguity within Chinese law. Nonetheless, one consistency appears: Chinese courts seem inclined to grant copyright protection where significant human engagement is present, regardless of AI's substantial role. This approach pragmatically harmonizes innovation encouragement with copyright's human-centric principles.

Chinese policymakers have also suggested the establishment of sui generis protection systems for AI-generated works. Draft proposals from the China National Intellectual Property Administration advocate for distinct protection for AI outputs, offering shorter duration rights to those investing in AI innovation,[393] paralleling the EU's database directive approach which protects databases based on investment rather than originality.

Japan

Japan's copyright framework is relatively permissive concerning AI, reflecting a policy preference that favors technological innovation and AI progress. While Japanese copyright law does not explicitly address AI-generated works, it similarly emphasizes human authorship. However, Japan's stance on AI training data is notably lenient.

Japanese copyright law encompasses broad exemptions allowing for the analysis and computational use of copyrighted works.[394] Article 30-4 of the Copyright Act permits reproduction, adaptation, and other uses of copyrighted materials for analysis, as long as such use does not adversely impact the interests of copyright holders. Courts and policymakers interpret this provision to allow AI training on copyrighted works without

393. ibid.

394. China National Intellectual Property Administration, *Guidelines on Artificial Intelligence-Generated Content and Intellectual Property Protection (Draft for Public Comment, 2023).*

395. Japanese Copyright Act (Act No 48 of 1970, as amended 2018) art 30-4.

authorization, as long as the training doesn't replace the normal exploitation of those works.[395]

This lenient approach aims to encourage AI development by minimizing legal hurdles in accessing training data. Japanese AI developers can utilize copyrighted works for training without needing to negotiate licenses, potentially expediting innovation. However, this has faced backlash from creators and rights holders, who argue that AI training exploits their creative efforts without providing compensation or control.

Regarding AI-generated outputs, Japanese law lacks specialized protection. Works generated autonomously by AI without substantial human creative involvement would likely not qualify for copyright protection.[396] Nonetheless, works that incorporate significant human creativity in their selection, arrangement, or direction of AI systems might gain copyrightability, with rights vested in the human contributors.

India

India's perspective on AI and copyright remains largely undeveloped, with no specific provisions addressing AI-generated works within its copyright law framework. The Indian Copyright Act of 1957, as updated, defines 'author' contextually based on the type of work but presumes it to be human creators.[397] Indian courts have not conclusively ruled on the copyright status of AI-generated works, although prevailing principles imply the necessity of human authorship.

However, India's technology sector has rapidly expanded, resulting in notable AI development across numerous fields. This surge has prompted discussions concerning potential copyright reforms. The Indian government has produced AI strategy documents

396.Agency for Cultural Affairs (Japan), *Report on Copyright and Artificial Intelligence (2023) 12-18.*
397.Japanese Copyright Act (n 92) art 2(1)(i).
398.Indian Copyright Act 1957 (Act No 14 of 1957, as amended 2012).

highlighting the requirement for regulatory frameworks that promote innovation while safeguarding rights holders.[398] In 2023, the Copyright Office put forth guidelines addressing AI-related subjects, indicating that works generated by AI lacking significant human contribution might not be copyrightable, while works involving creative human direction could be eligible for protection.[399]

India's stance seems to be slowly evolving, seeking to balance incentives for innovation with traditional copyright principles. Given India's vibrant creative sectors, particularly in Bollywood and music, policy conversations are expected to intensify as AI technologies become increasingly integral to content production.

4.3.6 African Perspectives and the Nigerian Context

Compared to Europe, Asia, and North America, African viewpoints on artificial intelligence (AI) and copyright are still relatively immature, indicating a reliance on technology and regulatory constraints. Nonetheless, African nations encounter distinct challenges and opportunities in formulating AI copyright frameworks. Analyzing regional practices sheds light on Nigeria's stance and potential.

The majority of African copyright laws are rooted in colonial legal systems—either British common law or French civil law—which impose requirements for human authorship and standards of originality inherited from these traditions. Very few African countries have implemented copyright rules specifically addressing AI, and legal rulings regarding AI-created works are limited.

399. NITI Aayog, *National Strategy for Artificial Intelligence (Government of India, June 2018).*
400. Indian Copyright Office, *Circular on Copyright and Artificial Intelligence (unofficial guidance, 2023).*

South Africa, the continent's most developed nation with an advanced legal framework, is beginning to explore AI copyright topics. Its copyright legislation is based on British common law and mandates human authorship.[400] The Copyright Act 98 of 1978 contextualizes the term 'author' with an inherent assumption of human creators. Scholars in South Africa are debating whether copyright laws need to adapt for AI, with opinions split between advocating for provisions similar to those in the UK that recognize computer-generated works and favoring traditional human authorship criteria.[401] The South African Law Reform Commission has included copyright reform in its agenda,[402] though proposals specific to AI are still being refined.

Kenya, East Africa's leading economy with a burgeoning technology sector—especially the 'Silicon Savannah' startup scene—has also started to address AI regulation. Its copyright laws are modeled on British traditions requiring human authorship.[403] While the Kenya Copyright Board has shown interest in understanding AI copyright issues, no legislative reforms have yet been proposed. Kenyan policymakers prioritize AI growth as essential for economic progress and digital transition.[404] They will face challenges in balancing incentives for innovation with protections for creators as AI adoption accelerates.

Ghana, which also has a growing technology sector, revised its Copyright Act in 2005, adopting provisions modeled on WIPO's suggestions.[405] The Act necessitates human

401. Copyright Act 98 of 1978 (South Africa).
402. See Caroline Ncube and others, *'Artificial Intelligence and Intellectual Property in South Africa' (2021) 54 Comparative and International Law Journal of Southern Africa 183.*
403. *South African Law Reform Commission, Issue Paper 37: Copyright Review (Project 147, December 2018).*
404. Copyright Act (Cap 130) (Kenya).
405. Republic of Kenya, *Kenya National Digital Master Plan 2022-2032 (Ministry of ICT, Innovation and Youth Affairs, 2022).*
406. Copyright Act 2005 (Act 690) (Ghana).

authorship and lacks special measures for computer-generated works. There has not yet been substantial discourse in Ghana regarding AI copyright, but the proposed National Policy on Artificial Intelligence (2020) acknowledges the necessity for legal structures to address AI technologies.[406]

Common trends across Africa include: laws generally require human authorship; AI-specific regulations are infrequent or absent; judicial experience with AI copyright matters is limited; and policy development remains nascent. Yet, unique pressures and opportunities exist for African nations regarding AI copyright reform. These pressures include:

1) Technological Dependence: Many African nations are primarily consumers of AI solutions rather than producers, often relying on systems created abroad. This dependency raises the risk of neo-colonial economic dynamics, where the works of African creators are utilized internationally to train foreign AI systems, benefiting foreign corporations disproportionately.
2) Digital Divide: Subpar technological infrastructure and a lack of digital literacy hinder African creators' ability to effectively use AI tools, potentially widening the gap between African and global creators.
3) Enforcement Capacity: African copyright enforcement systems are typically under-resourced, with limited personnel and funds available to monitor digital infringement. AI exacerbates these issues by automating violations at levels far beyond the capacity to enforce.

Conversely, opportunities include:

407. Republic of Ghana, *National Policy on Artificial Intelligence (Draft, Ministry of Communications, 2020).*

1) Policy Innovation: African countries can learn from the experiences of other jurisdictions, adopting best practices without falling into previous pitfalls. The delayed adoption provides a chance to bypass outdated frameworks.
2) Cultural Preservation: African nations can create legal frameworks to safeguard indigenous creativity and cultural heritage from AI misuse, ensuring that AI enhances rather than replaces authentic cultural expression.
3) Regional Coordination: Organizations such as the African Union and Regional Economic Communities can help establish unified approaches to AI copyright, fostering larger markets and minimizing regulatory fragmentation.

Nigeria's scenario exemplifies broader African trends while revealing unique characteristics. As the largest economy and most populated country in Africa, Nigeria possesses substantial creative industries with a global impact. Nollywood ranks as the second-largest film industry worldwide,[407] and Nigerian music, especially Afrobeats, has seen international acclaim. These sectors increasingly rely on digital technologies, thereby heightening the need for copyright laws that accommodate such technological evolution. Nonetheless, Nigeria grapples with enforcement challenges, as piracy and unauthorized use of copyrighted content remain prevalent.

The Nigerian Copyright Act 2022 positions Nigeria as a potential leader in copyright reform within Africa. The Act updates various provisions, enhancing enforcement mechanisms and addressing digital technologies via OSP liability clauses.[408] However, as noted, it lacks AI-specific provisions, leaving gaps amid the proliferation of AI technologies. Nigeria has the chance to design innovative frameworks that fill these gaps,

408. UNESCO, *Nollywood: The Influence of the Nigerian Movie Industry on African Culture* (*UNESCO 2013).*

409. Nigerian Copyright Act 2022, s 43.

potentially becoming a role model for other African countries and the Nigerian policymakers might explore several strategies:

1) Upholding human authorship requirements while clarifying that collaborative human-AI initiatives can qualify for protection if a substantial human creative contribution is evident.
2) Implementing UK-style provisions for computer-generated works, identifying human arrangers as authors and granting shorter protection durations compared to those for human-authored works.
3) Establishing separate sui generis protection frameworks for AI-generated works that confer limited exclusive rights based on investment rather than creative output.
4) Enhancing fair dealing exceptions to clarify that using copyrighted works for AI training may be permissible in specific contexts..
5) Enforcing disclosure and transparency requirements for AI-generated content to ensure that such works are labeled and training data usage is disclosed.

4.3.7 Consideration of WIPO treaties and broader global discussions

The World Intellectual Property Organization (WIPO), a specialized UN agency managing international intellectual property treaties, has focused increasingly on AI and intellectual property themes. WIPO's work sheds light on the evolving international consensus and ongoing debates surrounding AI copyright issues.

WIPO has released reports analyzing AI and intellectual property,[409] organized expert consultations, and encouraged discussions among member states. Significant themes include acknowledging that AI introduces new challenges for existing IP frameworks; recognizing diverse national approaches without a clear international consensus; emphasizing the necessity for balanced frameworks that incentivize innovation while

410. WIPO, *WIPO Technology Trends 2019: Artificial Intelligence (WIPO 2019).*

protecting human creators; and contemplating whether new treaties or amendments are essential.

The Berne Convention for the Protection of Literary and Artistic Works, managed by h/WIPO and serving as the foundational international copyright treaty, does not directly address AI-generated works. The Convention mandates member states to safeguard original works of authorship and sets minimum standards for protection duration, scope, and exceptions. However, since it was concluded in 1886 and last materially revised in 1971, the Convention predates contemporary AI advancements. Its silence regarding AI may reflect the drafters' inability to foresee these changes while also offering interpretive flexibility, allowing member states to adopt various approaches.

Some academics assert that the Berne Convention allows for—but does not mandate—protection of AI-generated works. The Convention broadly defines protectable works to encompass "every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression."[410] This phrasing centers on outputs rather than creators and can include AI-generated works. However, the Convention's repeated references to 'authors' typically denote human creators, and its provisions on moral rights (which protect attribution and integrity) assume human authors with individual personality and reputational stakes. Such textual elements imply an emphasis on human authorship, despite not explicitly excluding AI-generated works.

The WIPO Copyright Treaty (WCT), adopted in 1996 to address digital technology concerns, similarly lacks explicit provisions regarding AI-generated works.[411] The WCT demands members to provide adequate legal protection against the circumvention of technological protection measures and ensure remedies against interference with rights

411. Berne Convention (n 28) art 2(1).
412. WIPO Copyright Treaty (n 55) arts 11-12.

management information. These provisions target digital copyright enforcement but do not clarify the status of AI-generated works. Nigeria has yet to ratify the WCT, although doing so might enhance copyright protection in the digital space, independent of AI issues.

WIPO's Conversation on IP and AI commenced in 2019 and investigates whether international IP frameworks need adaptation for AI technologies.[412] Key issues include whether AI systems can be classified as inventors or authors, whether AI-generated outputs merit IP protection, how to allocate ownership of AI-generated IP, whether new exceptions or limitations are required for AI training and outputs, and the effectiveness of enforcement given AI innovations.[413] These deliberations reveal substantial divergence among WIPO member states, highlighting the absence of consensus on suitable policy directions.

Countries with significant tech enterprises (like the US and China) tend to support flexible frameworks that can accommodate rapid technological shifts without overregulating in a way that stifles innovation. In contrast, nations with strong creative industries and concerns for cultural sovereignty (like EU members) advocate for clearer rules that safeguard human creators and ensure AI supplements rather than diminishes human creativity. Developing nations, including those in Africa, have emphasized that AI copyright frameworks should not exacerbate existing inequalities or forge new dependencies on technology.

Global discussions outside of formal WIPO channels have also tackled AI copyright issues. Organizations such as UNESCO have explored the cultural implications of AI, underscoring the necessity of protecting cultural diversity while ensuring AI respects human rights.[414] Industry bodies representing technology companies, creative sectors, and rights holders have suggested various policy approaches, often mirroring their members'

413. WIPO, *Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence WIPO/IP/AI/2/GE/20/1 (21 May 2020).*

414. ibid 15-28.

415. UNESCO, *Recommendation on the Ethics of Artificial Intelligence (adopted 23 November 2021).*

commercial interests. Civil society organizations have pushed for frameworks that protect creators, guarantee public access to knowledge, and stave off biases inherent in AI or undermining human dignity.

This wealth of perspectives highlights the complexity involved in achieving international consensus on AI copyright. Nonetheless, several recurring themes have emerged:

1) Enduring Importance of Human Creativity: Most stakeholders recognize that copyright should prioritize human creativity, notwithstanding AI advancements.
2) Need for Balanced Frameworks: Frameworks should balance incentives for innovation with protections for creators, steering clear of both excessive protection that may hinder AI growth and insufficient protection that could eliminate financial incentives for AI investments.
3) Significance of Transparency: Transparency in AI operations is crucial, enabling informed decisions regarding authorship, ownership, and infringement.
4) Necessity for Adaptability: Given AI's rapid development, frameworks should be adaptable, favoring guiding principles over rigid rules and allowing for iterative policy evolution as technology and understanding progress.

4.3.8 Lessons and Best Practices for Nigeria

A comparative analysis of international strategies surrounding AI copyright offers several lessons and best practices that may be relevant to Nigeria. While Nigeria's specific context necessitates tailored solutions, insights from other jurisdictions can illuminate beneficial policy options and their potential outcomes.

Lesson 1: Clarity and Legal Certainty are Valuable

Jurisdictions that provide unequivocal rules on the copyright status of AI-generated works, such as the UK’s specific provisions for computer-generated works, facilitate commercial

planning and diminish litigation risks. Nigeria should prioritize establishing clear legislative rules that address AI-generated content rather than depending on the slow and unpredictable development of law through court rulings.

Lesson 2: Human Authorship Requirements Can Be Maintained While Accommodating AI

Most examined jurisdictions maintain human authorship requirements but accept that humans can utilize AI tools within creative processes. Nigeria might adopt a similar strategy, clarifying that works with substantial human creative input qualify for protection even if they involve AI contributions, whereas purely autonomous outputs from AI without human input would not.

Lesson 3: Duration of Protection Might Differ for AI-Related Works

The UK's shorter copyright term for computer-generated works (fifty years from creation compared to life-plus-seventy years for human-generated works)[415] acknowledges the differences from human creativity and may not warrant identical protection durations. Nigeria could implement similar distinctions in duration, providing incentives for AI development while recognizing the distinct nature of AI outputs.

Lesson 4: Attribution and Transparency are Important

The EU AI Act's requirements for labeling AI-generated content and disclosing training data[416]

enhance transparency, empowering audiences and rights holders to make informed decisions. Nigeria could adopt similar requirements to ensure AI's involvement is clear and the uses of training data are open, thereby mitigating concerns related to deception, cultural integrity, and enforcement, while keeping compliance demands manageable.

416.Copyright, Designs and Patents Act 1988 (UK) s 12(7).
417.AI Act (n 81) arts 50, 53.

Lesson 5: Exceptions for AI Training Require Careful Calibration

Jurisdictions like Japan, which permit broad AI training on copyrighted works,[417] encourage AI advancement but raise issues regarding the potential exploitation of creators. Conversely, mandating authorization for all uses of training data could impose prohibitive costs, consolidating AI capabilities within well-resourced entities. Nigeria should tread carefully in establishing exceptions, possibly permitting training for research or non-commercial purposes while requiring authorization or compensation mechanisms for commercial training, thereby balancing innovation incentives with creator protections.

Lesson 6: Enforcement Mechanisms Need Strengthening

AI magnifies existing copyright enforcement difficulties by automating infringements at scales that surpass traditional enforcement capacities. Nigeria should invest in technological enforcement tools (like automated content recognition systems), augment the capabilities of the Nigerian Copyright Commission, and strengthen partnerships with international enforcement agencies. Without effective enforcement, substantive legal frameworks could become merely symbolic.

Lesson 7: Multi-Stakeholder Engagement Improves Policy Outcomes

Countries that involve diverse stakeholders—including creators, tech companies, rights holders, academics, and civil society—in policy formulation tend to craft more balanced, legitimate, and sustainable frameworks. Nigeria should encourage broad consultations on AI copyright matters to ensure that policies reflect a wide array of perspectives and expertise.

418.Japanese Copyright Act (n 92) art 30-4.

Lesson 8: Regional Coordination Creates Efficiencies

Aligning AI copyright strategies across African nations could yield larger, more coherent markets, reduce compliance burdens for cross-border operations, and enhance African representation in global policy discussions. Nigeria could champion initiatives within the African Union or regional economic communities that address AI copyright, potentially leveraging its economic and diplomatic influence to shape regional strategies.

Lesson 9: Flexibility and Adaptability are Essential

Due to the rapid evolution of AI technologies, there is a risk that overly specific legal frameworks could become quickly obsolete. Nigeria should aim for principles-based regulations that allow judicial and administrative interpretation to evolve in line with technological progression, supplemented by periodic legislative reviews to maintain contemporary relevance.

Lesson 10: Cultural and Ethical Dimensions Matter

Copyright law operates within broader cultural and ethical frameworks. Nigeria must ensure that its AI copyright systems respect indigenous values, safeguard traditional creativity and cultural heritage, promote human dignity, and advance justice. Technical legal stipulations should align with these broader commitments.

Best Practices for Nigeria:

Drawing from the comparative analysis, Nigeria might consider implementing the following best practices in its AI copyright reforms:

1) Enact clear laws addressing AI-generated works by defining essential terms (such as 'computer-generated work', 'AI system', 'substantial human contribution') and articulating authorship and ownership structures.

2) Maintain requirements for human authorship while recognizing the creative roles of AI tools. Clarify that works involving significant human contributions, even when AI plays a role, are eligible for protection.
3) Adopt ownership principles for computer-generated works similar to the UK's framework, designating authorship for 'the person by whom the arrangements necessary for the creation of the work are undertaken.' Provide guidance on identifying this person in relation to AI contexts (e.g., the individual providing creative direction, the organization making strategic deployment choices).
4) Implement a shorter copyright duration for computer-generated works (like fifty years from creation) to reflect their distinct nature while offering economic incentives.
5) Strengthen fair dealing exceptions by clarifying that data training for AI using copyrighted material may be considered permissible for research or non-commercial activities, while commercial AI training may necessitate authorization or compensation mechanisms.
6) Mandate labeling and disclosure of AI-generated content to help audiences distinguish between human-produced and machine-generated works, enabling rights holders to evaluate potential infringements.
7) Safeguard cultural heritage and expressions from AI exploitation by enhancing protections for indigenous creativity, ensuring cultural materials used by AI systems are appropriately authorized.
8) Bolster enforcement capacity through investments in technology, staff training, and international cooperation, acknowledging that effective enforcement is crucial for substantive legal regimes.

9) Establish channels for multi-stakeholder consultations to maintain open dialogue among government bodies, creators, technology firms, rights holders, scholars, and civil society as AI technologies and policy understandings evolve.
10) Pursue regional coordination via African Union and regional economic frameworks, harmonizing approaches among nations and amplifying African perspectives in international discussions.

Adopting these best practices would position Nigeria as a forward-thinking leader in African copyright law, balancing the need for innovation with the protection of creators, honoring cultural values and ethical principles, and creating adaptable frameworks that are responsive to ongoing technological advancements.

To wrap up, this chapter has delved into the intricate relationship between artificial intelligence and copyright ownership in the digital age, focusing particularly on the Nigerian Copyright Act 2022 and its ability to manage AI-generated content. The examination underscores significant hurdles that Nigerian copyright law faces in adapting to AI technologies—hurdles that are both doctrinal and practical.

While the Nigerian Copyright Act 2022 signifies a substantial modernization of the country's copyright framework, it contains crucial gaps regarding AI-generated works. The lack of provisions addressing computer-generated works, the implicit requirement for human authorship, and the absence of considerations for AI-generated training data or collaborative human-AI creations all contribute to a landscape of significant legal ambiguity. These voids could have profound socio-economic consequences for Nigeria’s creative industries, posing potential threats to innovation opportunities while also risking labor displacement, cultural erosion, and economic marginalization.

The identified challenges—including ambiguities in definitions, doctrinal conflicts, difficulty in enforcement, and ethical dilemmas—are not confined to Nigeria alone; they reflect a

broader global struggle to reconcile traditional copyright mechanisms with emergent technological possibilities. The enduring requirement of human authorship, while deeply rooted in natural rights and personality-based theories of copyright, becomes increasingly complex as AI systems demonstrate their own creative capabilities. The challenges of enforcement are further heightened by AI's capability to generate vast amounts of content and by the global, distributed nature of AI's development and deployment.

Comparative analysis reveals diverse regulatory practices across the globe. The United States adheres to strict human authorship mandates, thereby excluding purely AI-generated works from protection while navigating fair use issues in relation to AI training. The United Kingdom adopts explicit protections for computer-generated works through provisions that designate human arrangers as authors, striking a pragmatic balance. The European Union emphasizes the significance of human creativity and has advanced comprehensive AI oversight through the AI Act, mandating transparency and copyright adherence. Asian jurisdictions display a range of responses, with Japan allowing permissive training exceptions, China exploring sui generis protection models, and India's framework remaining in development.

African perspectives on AI and copyright are still in the formative stages, yet the continent faces distinct pressures such as technological dependency, digital divides, and enforcement capacity constraints. Nigeria, as the largest economy in Africa with significant global creative industries, holds both the opportunity and obligation to craft innovative frameworks that can serve as exemplars for other African nations. Regional cooperation through initiatives from the African Union and regional economic entities could facilitate coordinated approaches that amplify African voices in global discussions.

The lessons and best practices extracted from the comparative analysis indicate several potential pathways for reforming Nigeria's copyright laws. Nigeria should implement clear

legal provisions that specifically address AI-generated works while maintaining human authorship requirements that adapt to embrace human-AI collaboration. Shortened copyright terms for computer-generated works, enhancing exceptions for research-related AI training, instituting disclosure requirements for AI-generated content, and bolstering enforcement mechanisms are promising policy directions. It is essential that these reforms proceed through inclusive stakeholder consultations that ensure diverse viewpoints inform policy development while incorporating flexibility to adapt to ongoing technological advancements.

In summary, Nigeria's approach to AI and copyright must strive to balance competing priorities such as encouraging innovation while safeguarding human creators; facilitating AI development while preserving cultural integrity; promoting technological adoption while avoiding labor displacement, and attracting foreign investments while preventing neo-colonial economic patterns. These contradictions do not lend themselves to easy resolutions; thoughtful calibration of legal rules, ongoing policy negotiation, and a readiness to adapt strategies as technology and understanding evolve are crucial.

The consequences of these choices are profound. Copyright law shapes the incentives for creative endeavors, influences cultural expression, affects economic distribution, and mirrors societal attitudes towards creativity and authorship. How Nigeria manages AI-generated content will have a substantial impact on the futures of its creative sectors, the employment landscape for its citizens, cultural autonomy, and Nigeria’s standing in the global creative market. The Nigerian Copyright Act 2022 lays the groundwork, but significant reforms are necessary to confront the unique challenges and opportunities presented by AI. By drawing lessons from international experiences, engaging a spectrum of stakeholders, and framing policy around Nigeria's contexts and values, it can develop frameworks that are legally coherent, economically viable, culturally sensitive, and ethically justifiable.

In the digital age, copyright law must evolve. AI represents a disruptive force that challenges the foundational assumptions of copyright while presenting extraordinary creative opportunities. Nigeria's response to these challenges will dictate whether AI becomes a catalyst for democratizing creativity, preserving cultural heritage, and fostering economic growth—or if it exacerbates disparities and undermines human creativity. The way forward demands foresight, careful unity of purpose, and a commitment to reconciling innovation with justice. This chapter has illuminated the necessary territory; the call for reform now begins.

CHAPTER FIVE

CONCLUSION

5.1 Summary of Findings

This research has examined the complex intersection of artificial intelligence and copyright law, with particular focus on the adequacy of the Nigerian Copyright Act 2022 in addressing the novel challenges posed by AI-generated content. Through doctrinal analysis, comparative examination of international approaches, and critical evaluation of emerging jurisprudence, this study has identified significant gaps and ambiguities in the existing legal framework that hinder effective regulation of AI-generated works in Nigeria.

The study's first major finding concerns the fundamental inadequacy of the Copyright Act 2022 in addressing AI-generated content. While the Act represents a progressive reform of Nigerian copyright law and introduces provisions designed to accommodate digital technologies,[418] it remains anchored to traditional conceptions of authorship, originality, and creativity that presuppose human creative agency. The Act's silence on artificial intelligence, machine learning, and autonomous creation creates a legal vacuum that leaves critical questions unanswered: Who owns copyright in works generated by AI systems? Can AI systems themselves be considered authors? What level of human involvement is necessary to establish authorship and ownership?

The research has demonstrated that section 2(3) of the Act, which provides for computer-generated works by attributing authorship to "the person by whom the arrangements

419.Copyright Act 2022, ss 1, 51.

necessary for the creation of the work are undertaken,"[419] offers an incomplete framework for modern generative AI. This provision, inherited from the UK Copyright, Designs and Patents Act 1988,[420] was drafted in an era when computers functioned primarily as tools facilitating human creativity rather than as autonomous agents capable of generating original expression independently. The contemporary reality of sophisticated generative AI systems—which employ machine learning, process vast training datasets, and produce outputs that may surprise even their developers—renders this provision ambiguous and potentially inadequate.

A second significant finding relates to the definitional and doctrinal ambiguities that pervade the application of copyright law to AI-generated works. The Act lacks definitions for AI-specific concepts such as "artificial intelligence," "algorithm," "machine learning," and "autonomous creation."[421] This definitional vacuum creates uncertainty regarding which works qualify as "computer-generated," what constitutes sufficient human involvement to establish traditional authorship, and how to distinguish between AI as a tool and AI as an autonomous creator. The research has shown that these ambiguities extend to fundamental copyright doctrines including originality, fixation, and the work-for-hire framework, all of which assume human creative agency and prove difficult to apply coherently to AI-generated content.

The study's third major finding concerns the multiple ownership and authorship uncertainties created by AI content generation. Unlike traditional creative processes involving a single human author or clearly defined collaborative relationships, AI-generated works typically involve multiple parties: AI developers who create underlying

420.ibid s 2(3).
421.Copyright, Designs and Patents Act 1988, s 9(3).
422.Copyright Act 2022, s 51.

models, entities that train models on specific datasets, users who provide prompts or inputs, and potentially others who fine-tune or customize systems. The Act provides no guidance on how to allocate ownership among these contributors, creating potential for disputes and legal uncertainty that could stifle innovation and commercialization of AI technologies in Nigeria's creative industries.

The research has identified critical gaps regarding the copyright implications of using copyrighted works as training data for AI systems. Modern generative AI models are trained on vast datasets that often include copyrighted materials scraped from the internet without explicit authorization from rights holders.[422] The Act's fair dealing provisions in sections 15-19[423] were not designed with AI training in mind and provide insufficient clarity on whether such training constitutes reproduction, adaptation, or another restricted act, or whether it can qualify as fair dealing for research or study purposes. This gap exposes AI developers to potential liability while leaving rights holders without clear legal recourse.

A fourth finding concerns the inadequacy of moral rights provisions for AI-generated works. The Act grants authors attribution and integrity rights designed to protect their honour and reputation[424]—rights that are conceptually problematic when applied to works generated by AI without meaningful human creative input. The research has demonstrated that moral rights, rooted in personality theory and the connection between authors and their creative expression,[425] sit uncomfortably with AI-generated works where no human

423. See generally Pamela Samuelson, *'Generative AI Meets Copyright' (2023) 331 Science 158.*
424. Copyright Act 2022, ss 15-19.
425. ibid s 12.
426. See generally Margaret Jane Radin, *'Property and Personhood' (1982) 34 Stanford Law Review 957*.

author exists to assert such rights or experience reputational harm from derogatory treatment of the work.

The comparative analysis conducted in this research reveals diverse international approaches to AI-generated content, reflecting ongoing global uncertainty and experimentation in this area. The United States maintains a strict human authorship requirement, with the US Copyright Office explicitly refusing registration for works lacking human creative input.[426] This approach prioritizes traditional copyright principles but potentially leaves AI-generated works in the public domain, raising questions about investment incentives and innovation policy. The United Kingdom's computer-generated works provision, similar to Nigeria's section 2(3), offers a pragmatic compromise by vesting authorship in the person making arrangements for creation,[427] though this approach faces criticism for potentially granting excessive rights to parties with minimal creative contribution.

Asian jurisdictions demonstrate more accommodating approaches. China has recognized copyright protection for AI-generated works where human involvement in selecting, arranging, or making creative choices is demonstrated,[428] reflecting a flexible interpretation of originality requirements. Japan has enacted specific provisions addressing AI training on copyrighted works, creating exceptions for machine learning purposes while requiring appropriate compensation mechanisms.[429] These approaches suggest alternative models

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427. United States Copyright Office, ***'Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence'*** *(16 March 2023) <https://www.copyright.gov/ai/aipolicyguidance.pdf> accessed 27 November 2025.*

428. Copyright, Designs and Patents Act 1988, s 9(3).

429. Beijing Internet Court, *Feilin v Baidu (2019) Jing 0491 Min Chu No 239*.

430. Japanese Copyright Act, art 30-4 (as amended 2018).

that balance innovation incentives with rights holder protections, offering potential lessons for Nigeria.

The research has identified significant socio-economic implications of AI-generated works for Nigeria. The country's vibrant creative industries—including Nollywood, music, literature, and digital media—face both opportunities and threats from AI technologies. While AI tools could democratize content creation and augment human creativity, widespread adoption of generative AI could also displace human creators, particularly those engaged in routine creative work, and concentrate wealth in large technology companies rather than individual Nigerian creators.[430] The uncertainty surrounding copyright protection for AI-generated works exacerbates these concerns by creating an unpredictable legal environment that hinders both investment in AI technologies and protection of human creative livelihoods.

Cultural policy considerations emerge as an important finding. Nigeria's rich cultural diversity and distinctive creative voices face potential homogenization if AI systems trained predominantly on Western content come to dominate creative markets.[431] The research has shown that copyright policy regarding AI-generated works must consider cultural preservation objectives alongside economic efficiency, ensuring that legal frameworks preserve space for distinctly human and culturally authentic Nigerian creative expression.

The study has identified critical enforcement and evidentiary challenges associated with AI-generated works. Proving ownership, authorship, originality, and infringement in AI cases requires technical evidence regarding algorithms, training data, and generation

431. See generally Julie E Cohen, *'The Regulatory State in the Information Age' (2016) 17 Theoretical Inquiries in Law 369.*

432. See generally Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism (New York University Press 2018).*

processes that traditional copyright litigation procedures are not designed to accommodate.[432] The Act's enforcement provisions do not specifically address the technical complexity of AI-related disputes or provide for specialized expertise in adjudication, potentially undermining effective enforcement of rights.

Finally, the research has revealed the absence of transparency and disclosure obligations for AI-generated content in Nigerian law. As AI-generated works become increasingly indistinguishable from human-created content, consumers may be unable to make informed choices about the content they encounter or purchase.[433] The lack of mandatory disclosure requirements raises consumer protection concerns and market integrity issues that the current legal framework fails to address adequately.

5.2 Recommendations

Based on the findings of this research, the following recommendations are proposed to address the gaps and challenges identified in Nigeria's legal framework for AI-generated content:

5.2.1 Legislative Reforms (Amendment of the Copyright Act 2022)

The National Assembly should consider amendments to the Copyright Act 2022 to explicitly address AI-generated content. These amendments should include:

a) **Clear Definitions:** The Act should be amended to include precise definitions of key AI-related terms including "artificial intelligence," "machine learning," "generative AI," "autonomous creation," and "computer-generated work." These definitions should distinguish between different levels of AI involvement in creative processes, from AI as

433. Copyright Act 2022, Part VIII.

434. See generally Woodrow Hartzog and Neil Richards, *'Privacy's Constitutional Moment and the Limits of Data Protection' (2020) 61 Boston College Law Review 1687.*

a tool facilitating human creativity to fully autonomous AI generation with minimal human input.[434]

b) **Tiered Framework for AI Works:** Rather than a binary approach that categorizes works as either human-authored or computer-generated, the Act should adopt a tiered framework that recognizes varying degrees of human involvement. This framework could establish:

   1) Tier 1: Works created by humans using AI as a tool, where substantial human creative choices determine the final output—these should receive full copyright protection with human authors as rights holders.

   2) Tier 2: Works involving significant AI autonomy but with meaningful human involvement in prompting, selecting, arranging, or editing outputs—these could receive modified protection with ownership vesting in the person exercising creative judgment in the process.

   3) Tier 3: Works generated entirely autonomously by AI with minimal human involvement—these could either fall into the public domain immediately or receive sui generis protection shorter than traditional copyright terms.

This tiered approach would provide clarity while accommodating the spectrum of human-AI collaboration in modern creative processes.[435]

c) **Ownership Attribution Rules:** The Act should specify clear rules for attributing ownership when multiple parties contribute to AI-generated works. These rules should

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435. See generally Andres Guadamuz, *'Artificial Intelligence and Copyright' (2017) WIPO Magazine <https://www.wipo.int/wipomagazine/en/2017/05/article0003.html> accessed 27 November 2025.*

436. See generally Shlomit Yanisky-Ravid, *'Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era—The Human-Like Authors Are Already Here—A New Model' (2017) 2017 Michigan State Law Review 659.*

consider factors including: the party who developed the AI system, the party who trained the model, the party who provided creative prompts or inputs, and the party who selected, arranged, or edited outputs. The amendment should establish a rebuttable presumption that ownership vests in the party exercising the most significant creative control, with provisions allowing contractual reallocation of rights among contributors.[436]

d) **Training Data Provisions:** The Act should introduce specific provisions addressing the use of copyrighted works as training data for AI systems. Following models emerging in jurisdictions such as Japan and the European Union, these provisions could include:

   1) A limited exception permitting the use of lawfully accessed copyrighted works for AI training purposes, subject to conditions ensuring that such use does not unfairly prejudice the legitimate interests of rights holders.

   2) Requirements for transparency regarding training datasets, enabling rights holders to know if their works have been used.

   3) Opt-out mechanisms allowing rights holders to exclude their works from AI training, with technical and legal measures to enforce such exclusions.

   4) Provisions for equitable remuneration where copyrighted works are used in commercial AI training, potentially through collective licensing schemes administered by copyright collecting societies.[437]

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437. See generally Jani McCutcheon, *'The Vanishing Author in Computer-Generated Works: A Critical Analysis of Recent Australian Case Law' (2013) 36 Melbourne University Law Review 915.*

438. See generally Mark A Lemley and Bryan Casey, *'Fair Learning' (2021) 99 Texas Law Review 743; European Commission, 'Proposal for a Directive on Copyright in the Digital Single Market' COM(2016) 593 final.*

e) **Modified Moral Rights:** The Act should clarify how moral rights apply to AI-generated works. Amendments could provide that:

1) Where AI-generated works involve sufficient human creative input to establish authorship under the tiered framework, traditional moral rights vest in the human author.

2) Where works are generated by AI with minimal human involvement, moral rights may be waived or limited, though provisions should protect against false attribution of AI-generated works to human authors.

3) Disclosure obligations may be imposed requiring identification of AI-generated content in commercial contexts to protect consumer interests and market integrity.[438]

f) **Reduced Protection Terms:** The Act should consider shorter copyright protection terms for AI-generated works compared to human-authored works. Given the reduced investment of human creative labour and the policy objective of ensuring robust public domain resources, protection terms of 25-50 years from creation could be appropriate for AI-generated works, compared to life plus 70 years for human-authored works.[439] This differentiation would balance incentives for AI innovation with public access to creative works.

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439. See generally Mira T Sundara Rajan, *'Moral Rights in the 21st Century: The New Landscape' (2018) Singapore Journal of Legal Studies 393.*

440. See generally Dan L Burk, *'Algorithmic Fair Use' (2019) 86 University of Chicago Law Review 283.*

g) **Liability and Infringement Provisions:** The Act should introduce provisions specifically addressing liability for infringement involving AI systems. These provisions should clarify:

1) Under what circumstances AI developers, users, or platform providers bear liability for infringing outputs generated by AI systems.

2) The defenses available when infringement occurs through automated AI processes without human knowledge or intent.

3) The remedies available to rights holders whose works are unlawfully reproduced or adapted through AI generation.

4) Safe harbour provisions for platforms hosting AI-generated content, conditional on implementing notice-and-takedown systems and reasonable measures to prevent infringement.[440]

5.2.2 Regulatory and Administrative Measures (Nigerian Copyright Commission Guidelines)

The Nigerian Copyright Commission should develop and publish comprehensive guidelines on AI-generated content to provide clarity pending legislative reform. These guidelines should:

a) **Interpretive Guidance:** Provide guidance on interpreting existing provisions of the Copyright Act 2022 as applied to AI-generated works, clarifying the Commission's position on key issues including the threshold of human involvement necessary for authorship, the application of originality requirements

441. See generally Omri Rachum-Twaig, *'Whose Robot Is It Anyway?: Liability for Artificial-Intelligence-Based Robots' [2020] University of Illinois Law Review 1141.*

to AI outputs, and the meaning of "arrangements necessary for creation" in section 2(3).[441]

b) **Registration Procedures:** Establish clear procedures for copyright registration of AI-generated works, specifying the information applicants must provide regarding AI involvement, training data, human contributions, and ownership claims. The Commission should maintain public records distinguishing AI-generated works from traditional human-authored works to promote transparency.[442]

c) **Disclosure Requirements:** Develop voluntary or mandatory disclosure standards requiring creators to identify AI-generated content in commercial contexts, particularly for works distributed in creative industries, advertising, journalism, and educational materials. These standards should balance transparency objectives with practical implementation considerations.[443]

d) **Stakeholder Engagement:** Facilitate multi-stakeholder dialogue among AI developers, creative industry representatives, rights holders, technology companies, academics, and civil society organizations to develop consensus approaches to AI and copyright issues. The Commission could convene working groups to develop industry codes of practice and self-regulatory frameworks complementing legal regulation.[444]

5. 2.3 Capacity Building and Awareness (Judicial and Legal Capacity Development)

Given the technical complexity of AI-related copyright disputes, capacity building initiatives should be undertaken:

442. Copyright Act 2022, s 2(3).
443. ibid s 21 (registration provisions).
444. See generally Ryan Abbott, *'I Think, Therefore I Invent: Creative Computers and the Future of Patent Law' (2016) 57 Boston College Law Review 1079.*
445. See generally Peter K Yu, *'Intellectual Property and Human Rights in the Nonmultilateral Era' (2014) 64 Florida Law Review 1045.*

a) **Specialized Training:** Provide training for judges, magistrates, and legal practitioners on AI technologies, machine learning concepts, and the specific challenges AI poses for copyright law. This training should enable the judiciary to understand technical evidence and make informed decisions in AI-related copyright disputes.[445]

b) **Expert Panels:** Establish mechanisms for courts to access technical expertise when adjudicating AI-related copyright cases, potentially through court-appointed expert witnesses or specialized intellectual property tribunals with technical assessors.[446]

c) **Practice Directions:** The Chief Judge of the Federal High Court should consider issuing practice directions for the conduct of copyright litigation involving AI-generated works, establishing procedures for technical evidence, expert testimony, and case management appropriate to the complexity of such disputes.[447]

5. 2.4 Public Awareness and Education

a) **Awareness Campaigns:** The Nigerian Copyright Commission should conduct public awareness campaigns educating creators, technology developers, businesses, and the general public about copyright implications of AI-generated content, rights and obligations under existing law, and best practices for documenting human contributions to AI-assisted creative works.[448]

a) **Educational Resources:** Develop and disseminate educational materials, including guidelines, FAQs, case studies, and practical toolkits addressing common scenarios involving AI-generated content. These resources should be accessible to diverse

446. See generally Rochelle Cooper Dreyfuss, *'Fostering Dynamic Innovation in Information Technology: The Importance of Intermediaries in the Internet Environment' in Rochelle Cooper Dreyfuss, Harry First and Diane L Zimmerman (eds), Working Within the Boundaries of Intellectual Property (Oxford University Press 2010).*

447. Copyright Act 2022, Part VIII (enforcement provisions).

448. See generally Federal High Court (Civil Procedure) Rules 2019.

449. See generally Ruth L Okediji, *'The International Relations of Intellectual Property: Narratives of Developing Country Participation in the Global Intellectual Property System' (2003) 7 Singapore Journal of International & Comparative Law 315.*

audiences including individual creators, small businesses, technology startups, and educational institutions.[449]

5.2.5 Industry Self-Regulation and Best Practices (Industry Codes of Practice.)

Industry associations representing AI developers, technology companies, and creative industries should develop codes of practice towards addressing AI-generated content such as:

a) **Transparency Standards:** Establish industry standards for transparency regarding AI involvement in content creation, including labeling conventions, metadata standards, and disclosure practices that enable consumers and downstream users to identify AI-generated works.[450]

b) **Ethical Guidelines:** Develop ethical guidelines for AI content generation addressing issues such as avoiding deceptive use of AI to imitate human creators, respecting cultural sensitivities, preventing generation of infringing content, and ensuring AI systems are not trained on unlawfully obtained copyrighted works.[451]

c) **Contractual Frameworks:** Create model contracts and licensing agreements for AI-generated content addressing ownership allocation among contributors, licensing of training data, revenue sharing arrangements, and liability allocation. These standard contracts could reduce transaction costs and provide clarity for parties engaging with AI technologies.[452]

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450. See generally William W Fisher III, *'Theories of Intellectual Property' in Stephen R Munzer (ed), New Essays in the Philosophy of Law and Legal Theory (Cambridge University Press 2001).*

451. See generally Mark P McKenna, *'The Normative Foundations of Trademark Law' (2007) 82 Notre Dame Law Review 1839.*

452. See generally Luciano Floridi and others, *'AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations' (2018) 28 Minds and Machines 689.*

453. See generally Robert P Merges, *'Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations' (1996) 84 California Law Review 1293.*

5.2.6 International Cooperation

Regional Harmonization

Nigeria should engage with other African countries and regional organizations to develop harmonized approaches to AI and copyright:

a) **ARIPO and OAPI Cooperation:** Work through the African Regional Intellectual Property Organization (ARIPO) and the Organisation Africaine de la Propriété Intellectuelle (OAPI) to develop regional frameworks for AI-generated content that promote consistency across African jurisdictions while respecting national policy priorities.[453]

b) **Model Laws:** Support development of model laws or guidelines on AI and copyright for African countries, drawing on comparative international experiences while addressing Africa-specific contexts including cultural preservation, development objectives, and technology transfer considerations.[454]

Global Engagement

a) **WIPO Participation:** Nigeria should actively participate in World Intellectual Property Organization discussions on AI and intellectual property, contributing African perspectives to global policy development and ensuring that international frameworks accommodate developing country interests.[455]

b) **Treaty Obligations:** Monitor developments in international copyright treaties and ensure that Nigeria's domestic law reforms are compatible with obligations under the

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454. See generally Caroline B Ncube, *'Harnessing Intellectual Property for Development: Some Thoughts on an Appropriate Theoretical Framework' in Daniel Gervais (ed), Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS-Plus Era (2nd edn, Oxford University Press 2014).*

455. See generally African Union*, 'Agenda 2063: The Africa We Want' (2015).*

456. See generally World Intellectual Property Organization, *'WIPO Conversation on Intellectual Property and Artificial Intelligence' (2019-2022) <https://www.wipo.int/about-ip/en/artificialintelligence/> accessed 27 November 2025.*

Berne Convention, TRIPS Agreement, and WIPO Copyright Treaty while utilizing available flexibilities to advance national development objectives.[456]

5.3 Contributions to Knowledge

This research makes several significant contributions to legal scholarship and policy discourse on artificial intelligence and copyright law, particularly from a Nigerian and African perspective:

Doctrinal Contribution

This study provides the first comprehensive doctrinal analysis of the Nigerian Copyright Act 2022 specifically examining its adequacy for regulating AI-generated content. By systematically identifying gaps, ambiguities, and limitations in the Act's provisions as applied to AI-generated works, this research establishes a foundation for future scholarly work and informs legislative reform efforts. The detailed examination of key provisions including section 2(3) on computer-generated works, originality requirements, ownership attribution, and moral rights contributes new insights into how traditional copyright doctrines intersect with AI technologies in the Nigerian context.[457]

Comparative Legal Analysis

The research contributes a detailed comparative analysis of international approaches to AI-generated content, examining jurisdictions including the United States, United Kingdom, European Union, China, Japan, and India. This comparative perspective, which has been lacking in Nigerian copyright scholarship, reveals diverse regulatory strategies and policy

457. See Berne Convention for the Protection of Literary and Artistic Works (adopted 9 September 1886, revised 24 July 1971) 1161 UNTS 30; Agreement on Trade-Related Aspects of Intellectual Property Rights (adopted 15 April 1994, entered into force 1 January 1995) 1869 UNTS 299; WIPO Copyright Treaty (adopted 20 December 1996, entered into force 6 March 2002) 2186 UNTS 121.

458. See generally James Boyle, *'The Second Enclosure Movement and the Construction of the Public Domain' (2003) 66 Law and Contemporary Problems 33.*

choices available to Nigeria as it confronts AI-related copyright challenges. By situating Nigeria's legal framework within this global context, the research identifies potential models and best practices that could inform Nigerian policy development while highlighting approaches inconsistent with Nigeria's socio-economic development priorities.[458]

Theoretical Framework

This study advances theoretical understanding of authorship, originality, and creativity in copyright law by examining how these fundamental concepts must evolve to accommodate non-human creation. The research challenges anthropocentric assumptions underlying copyright theory and explores whether existing philosophical justifications for copyright protection—including labour theory, personality theory, and utilitarian incentive theory—can coherently extend to AI-generated works or whether new theoretical frameworks are necessary. This theoretical contribution has implications beyond AI, informing broader debates about the scope and foundations of copyright protection.[459]

Socio-Economic Analysis

The research contributes important insights into the socio-economic implications of AI-generated content for Nigeria's creative industries, labour markets, and cultural development. By examining how copyright policy choices regarding AI-generated works impact employment in creative sectors, access to knowledge and culture, innovation incentives, and cultural preservation, this study demonstrates that AI and copyright issues are not merely technical legal questions but have profound consequences for economic development and social welfare. This socio-economic perspective enriches purely

459. See generally Graeme B Dinwoodie and Rochelle Cooper Dreyfuss, *A Neofederalist Vision of TRIPS: The Resilience of the International Intellectual Property Regime (Oxford University Press 2012).*

460. See generally Mario Biagioli, *'Genius Against Copyright: Revisiting Fichte's Proof of the Illegality of Reprinting' (2014) 86 Notre Dame Law Review 1847.*

doctrinal analysis and provides evidence-based foundations for policy recommendations.[460]

African Perspective

This research contributes an African perspective to global discourse on AI and copyright that has been dominated by developed country viewpoints. By examining AI-generated content through the lens of Nigeria's specific legal, economic, cultural, and technological context, the study highlights considerations often overlooked in Western scholarship including: the role of copyright policy in supporting nascent technology sectors in developing countries, the cultural preservation implications of AI trained on Western content, the particular vulnerability of developing country creators to displacement by AI technologies, and the importance of ensuring African voices shape international copyright norms. This contribution is particularly significant given Africa's underrepresentation in global intellectual property policy-making.[461]

Policy-Oriented Research

Unlike purely theoretical or doctrinal legal scholarship, this research explicitly aims to inform policy and legislative reform. The detailed recommendations provided offer concrete, implementable proposals for addressing identified gaps in Nigeria's legal framework. By grounding recommendations in comparative analysis, doctrinal examination, and socio-economic assessment, the research provides evidence-based guidance for the National Assembly, Nigerian Copyright Commission, judiciary, and other

461. See generally PricewaterhouseCoopers, *'Entertainment and Media Outlook: 2022-2026' (2022); Oris Aigbokhaevbolo, 'Nigeria's Creative Industry: Potential, Challenges and Opportunities' (2020) African Business 42.*

462. See generally Olufunmilayo B Arewa, *'TRIPS and Traditional Knowledge: Local Communities, Local Knowledge, and Global Intellectual Property Frameworks' (2006) 10 Marquette Intellectual Property Law Review 155.*

stakeholders engaged in copyright policy development. This policy-oriented approach contributes practical value beyond academic knowledge generation.[462]

Methodological Innovation

The research demonstrates methodological innovation by combining doctrinal legal analysis with comparative law, policy analysis, and socio-economic assessment to examine AI-generated content comprehensively. This interdisciplinary approach, drawing on legal theory, intellectual property economics, technology studies, and cultural policy analysis, provides richer understanding than single-method approaches. The methodology employed in this research could serve as a model for future scholarship examining the intersection of emerging technologies and legal regulation.[463]

Foundation for Future Research

By identifying key issues, mapping the terrain of AI and copyright law in Nigeria, and highlighting areas requiring further investigation, this research establishes a foundation for future scholarly inquiry. The study identifies specific questions warranting additional research, including empirical investigation of AI's actual impact on Nigeria's creative industries, technical-legal analysis of algorithmic transparency and accountability mechanisms, and cross-jurisdictional comparative studies of AI copyright policy effectiveness. This foundational contribution will enable subsequent research to build upon established knowledge rather than starting afresh.[464]

463. See generally Peter K Yu, *'Reconceptualizing Intellectual Property Interests in a Human Rights Framework' (2007) 40 UC Davis Law Review 1039.*
464. See generally Kimberlee Weatherall, *'Of Copyright, Technical Protection Measures, and Technological Neutrality' in Susy Frankel and Daniel Gervais (eds), Advanced Introduction to Copyright Law (Edward Elgar Publishing 2016).*
465. See generally Michael J Madison, *'Law as Design: Objects, Concepts, and Digital Things' (2005) 56 Case Western Reserve Law Review 381.*

5.4 Areas of further Studies

While this research has examined comprehensively the legal framework for AI-generated content under the Nigerian Copyright Act 2022, several important questions warrant further investigation:

Empirical Studies on AI Impact

Future research should undertake empirical studies examining the actual impact of AI technologies on Nigeria's creative industries. Such studies could investigate: the extent to which Nigerian creators are currently using AI tools in creative processes; the types of AI applications most prevalent in Nigerian creative sectors; the economic impact of AI on employment, income, and business models in creative industries; and creator perceptions of opportunities and threats presented by AI technologies. These empirical insights would ground policy development in evidence regarding real-world effects rather than theoretical speculation.[465]

Technical-Legal Studies on Algorithmic Accountability

Further research should examine the technical and legal dimensions of algorithmic accountability in AI-generated content. Areas for investigation include: technical mechanisms for ensuring transparency regarding training data used in AI systems; legal frameworks for algorithmic explainability that enable rights holders to understand whether their works contributed to AI-generated outputs; the feasibility and design of technological protection measures to prevent unauthorized use of copyrighted works in AI training; and liability frameworks addressing AI systems that generate infringing content. This research

466. See generally National Information Technology Development Agency, *'National Digital Economy Policy and Strategy (2020-2030) for a Digital Nigeria' (2019).*

would require interdisciplinary collaboration between legal scholars and computer scientists.[466]

Comparative Effectiveness Studies

Longitudinal comparative research should examine the effectiveness of different national approaches to regulating AI-generated content. Such research could assess: whether jurisdictions granting copyright protection to AI-generated works experience greater investment in AI innovation compared to those denying protection; the impact of different regulatory approaches on creative industry employment and human creator livelihoods; the effectiveness of various transparency and disclosure mechanisms; and the outcomes of early judicial decisions addressing AI-related copyright disputes. These comparative effectiveness studies would provide evidence regarding which policy approaches achieve desired objectives.[467]

Cultural and Sociological Research

Further research from cultural and sociological perspectives could examine: how AI-generated content affects Nigerian cultural identity and creative expression; public attitudes toward AI-generated works compared to human-created content; the role of AI in preserving or eroding cultural diversity in Nigeria's multi-ethnic society; and the implications of AI for creative labour, artistic communities, and cultural production practices. These studies would enrich understanding of AI's social and cultural dimensions beyond economic and legal considerations.[468]

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467. See generally Margot E Kaminski, *'Binary Governance: Lessons from the GDPR's Approach to Algorithmic Accountability' (2019) 92 Southern California Law Review 1529.*

468. See generally Graeme Austin, *'Valuing "Domestic Self Determination" in International Intellectual Property Jurisprudence' (2012) 77 Missouri Law Review 1349.*

469. See generally Federal Republic of Nigeria, National Population Commission, *'Nigeria's Cultural Diversity' (2018); Safiya Umoja Noble, Algorithms of Oppression: How Search Engines Reinforce Racism (New York University Press 2018).*

Moral and Philosophical Inquiry

Additional philosophical research should examine fundamental questions raised by AI-generated content including: whether creativity is necessarily a human attribute or whether machine creativity merits recognition; the moral status of AI-generated works and whether they possess intrinsic value independent of human creators; the relationship between consciousness, intentionality, and authorship; and whether copyright theory's anthropocentric foundations require revision in light of AI capabilities. These philosophical inquiries could inform principled approaches to AI regulation grounded in coherent moral frameworks.[469]

Sui Generis Protection Regimes

Research should explore alternative protection regimes for AI-generated content beyond traditional copyright, examining: the design of sui generis rights specifically tailored to AI-generated works; the potential for unfair competition law or trade secret protection to address some issues raised by AI-generated content; the role of contract law in allocating rights among parties involved in AI content generation; and the possibility of collective licensing or statutory licensing schemes for AI training data. These alternative approaches might provide more appropriate protection than forcing AI-generated works into copyright frameworks designed for human authorship.[470]

International Harmonization Studies

Further research should examine prospects for and challenges to international harmonization of AI copyright law, investigating: whether global minimum standards for AI-generated content regulation are achievable or desirable; the role of international

470. See generally Lawrence B Solum, *'Legal Personhood for Artificial Intelligences' (1992) 70 North Carolina Law Review 1231.*

471. See generally Jerome H Reichman, *'Legal Hybrids Between the Patent and Copyright Paradigms' (1994) 94 Columbia Law Review 2432.*

organizations including WIPO in facilitating harmonization; developing country interests in international AI copyright norm-setting; and the relationship between AI copyright regulation and other international legal regimes including trade law, human rights law, and competition law. Such research would inform Nigeria's strategy for international engagement on AI and intellectual property issues.[471]

Enforcement and Remedies Research

Additional research should examine practical enforcement challenges and appropriate remedies for AI-related copyright infringement, including: evidentiary standards for proving infringement involving AI-generated content; the adequacy of existing remedies including injunctions, damages, and account of profits for AI contexts; the role of technological measures in enforcing copyright against AI systems; and alternative dispute resolution mechanisms appropriate for AI-related copyright disputes. These practical enforcement questions are essential for translating substantive legal rights into effective protection.[472]

Sector-Specific Studies

Future research should examine AI and copyright issues in specific creative sectors including: the film industry (Nollywood), where AI tools for video editing, animation, and visual effects are rapidly developing; the music industry, where AI composition and performance technologies raise particular challenges; journalism and news media, where AI-generated content is increasingly prevalent; visual arts and graphic design, where generative AI has achieved remarkable capabilities; and educational publishing, where AI-

472. See generally Laurence R Helfer, *'Regime Shifting in the International Intellectual Property System' (2009) 7 Perspectives on Politics 39.*

473. See generally Graeme W Austin, *'Importing Kazaa—Exporting Grokster' (2006) 22 Santa Clara Computer and High Technology Law Journal 577.*

generated educational materials present both opportunities and concerns. Sector-specific analysis would enable tailored regulatory approaches recognizing different industry contexts.[473]

Consumer Protection Research

Additional research should examine consumer protection dimensions of AI-generated content, investigating: consumer ability to identify AI-generated content and preferences regarding disclosure; the risk of consumer deception or manipulation through undisclosed AI-generated content; appropriate labeling and disclosure standards for different contexts; and the intersection between copyright law and consumer protection regulation regarding AI-generated works. These studies would inform development of disclosure requirements and transparency mechanisms.[474]

Economic Analysis

Further economic research should examine: the transaction costs associated with different AI copyright regimes; the optimal term of protection for AI-generated works from an economic efficiency perspective; the welfare implications of extending or denying copyright protection to AI-generated content; the effects of AI on market concentration and competition in creative industries; and the implications of AI for developing country participation in global creative markets. Rigorous economic analysis would strengthen evidence-based policy-making.[475]

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474. See generally Alessandro Nuvolari and Valentina Tartari, *'Bennet Woodcroft and the Value of English Patents, 1617-1841' (2011) 18 Explorations in Economic History 186 (on sector-specific copyright studies methodology).*

475. See generally Omer Tene and Jules Polonetsky, *'Big Data for All: Privacy and User Control in the Age of Analytics' (2013) 11 Northwestern Journal of Technology and Intellectual Property 239.*

476. See generally William M Landes and Richard A Posner, *The Economic Structure of Intellectual Property Law (Harvard University Press 2003).*

5.5 Conclusion

The emergence of artificial intelligence as a content-generating technology represents a watershed moment for copyright law, challenging fundamental doctrines and assumptions that have shaped intellectual property regulation for centuries. This research has demonstrated that the Nigerian Copyright Act 2022, while representing significant legislative progress in many respects, is inadequately equipped to address the novel questions of authorship, ownership, and protection raised by AI-generated works. The Act's reliance on human-centric conceptions of creativity, its definitional gaps regarding AI-related concepts, and its ambiguous provisions for computer-generated works create legal uncertainty that hinders both protection of legitimate rights and freedom to operate for AI developers and users.

The challenges identified in this research are not unique to Nigeria but reflect global uncertainty as legal systems worldwide grapple with accommodating AI within copyright frameworks designed for human authorship. The comparative analysis reveals no clear international consensus, with jurisdictions adopting diverse approaches ranging from strict human authorship requirements to pragmatic attribution of ownership to human arrangers to experimental recognition of AI-generated works under modified protection regimes. This diversity reflects genuine policy dilemmas regarding how to balance competing objectives: incentivizing AI innovation while protecting human creators, ensuring public access to creative works while maintaining investment incentives, preserving cultural authenticity while embracing technological advancement, and protecting rights holders while enabling new creative practices.

For Nigeria, these policy choices carry particular significance. As a developing country with vibrant creative industries, rich cultural heritage, and ambitions for technological

advancement, Nigeria must navigate AI and copyright policy carefully to advance multiple, sometimes conflicting, objectives. The socio-economic analysis conducted in this research demonstrates that copyright rules for AI-generated works will significantly impact employment in creative sectors, access to educational and cultural resources, innovation and entrepreneurship in technology industries, market integrity and consumer protection, and preservation of Nigerian cultural identity in an increasingly digital and globalized creative marketplace.

The recommendations proposed in this research offer a path forward for Nigeria, emphasizing the need for comprehensive legislative reform that explicitly addresses AI-generated content while providing clarity through regulatory guidance, capacity building, industry self-regulation, and international cooperation. The proposed tiered framework for AI works recognizes the spectrum of human-AI collaboration in modern creative processes and provides differentiated treatment based on the level of human creative involvement. Specific provisions addressing training data use, modified moral rights, reduced protection terms, and liability allocation would fill critical gaps in the current legal framework. Complementary regulatory measures including Nigerian Copyright Commission guidelines, judicial capacity building, public awareness campaigns, and industry codes of practice would support effective implementation of legal reforms.

Importantly, this research emphasizes that AI and copyright policy must be developed through inclusive multi-stakeholder processes engaging AI developers, creative industry representatives, rights holders, technology companies, academics, civil society, and government agencies. The complexity of AI technologies, the rapidity of technological change, the diversity of affected stakeholders, and the profound implications for Nigerian society demand collaborative policy development that balances competing interests and

incorporates diverse perspectives. No single approach will satisfy all stakeholders, but transparent, evidence-based policy processes can build legitimacy and effectiveness for regulatory frameworks.

The contributions to knowledge offered by this research—including doctrinal analysis of Nigerian law, comparative international perspectives, theoretical examination of copyright fundamentals, socio-economic assessment, and policy-oriented recommendations—establish a foundation for informed policy development and future scholarly inquiry. The identification of areas requiring further research highlights the ongoing nature of engagement with AI and copyright issues as technologies evolve, markets develop, and social practices adapt.

As Nigeria confronts the challenges and opportunities presented by AI-generated content, the fundamental question is not whether to regulate but how to regulate in ways that advance Nigeria's development objectives, protect the livelihoods and rights of Nigerian creators, preserve cultural authenticity and diversity, enable beneficial innovation, and ensure that technological advancement serves broad social welfare rather than concentrating wealth and power. Copyright law represents one among multiple regulatory tools—alongside competition law, consumer protection regulation, cultural policy, innovation policy, and technology regulation—that must be deployed coherently to govern AI's implications for creativity and culture.

The research concludes that while the current Nigerian legal framework for AI-generated content is inadequate, Nigeria has the opportunity to develop innovative, contextually appropriate regulatory approaches that learn from international experiences while addressing Nigeria's unique circumstances. By acting decisively to clarify copyright rules for AI-generated works, Nigeria can reduce legal uncertainty, support both human creators

and AI innovators, position itself as a leader in African technology policy, and ensure that AI serves as a tool for empowering Nigerian creativity rather than displacing it. The urgency of action increases as AI capabilities advance rapidly and AI-generated content becomes increasingly prevalent in Nigerian creative markets.

Ultimately, the regulation of AI-generated content under copyright law reflects deeper questions about the value we assign to human creativity, the purposes we believe intellectual property should serve, and the kind of creative culture we wish to cultivate in an age of intelligent machines. These are not merely technical legal questions but fundamentally normative ones that demand thoughtful deliberation and value choices. It is hoped that this research contributes usefully to that deliberation and supports the development of copyright policies that honor human creativity, enable beneficial innovation, and advance Nigeria's vision for its creative and technological future.

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