THE INTERSECTION BETWEEN COPYRIGHT LAW AND ARTIFICIAL INTELLIGENCE

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DECLARATION

I, **BEATRICE WANJIE**, hereby declare that this dissertation is my original work submitted in partial fulfilment for the award of the Degree of Bachelor of Laws (LLB) at Daystar University and has not been submitted or pending submission for a degree in any other University. Moreover, references made herein have been duly acknowledged.

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ABSTRACT

With an emphasis on the US and UK legal systems, this dissertation examines the complex institutional and legal frameworks pertaining to AI ownership and the use of copyrighted content for AI training. Based on Jeremy Bentham and John Stuart Mill's theory of utilitarianism, it looks at how copyright rules encourage innovation and advance economic and cultural development. The study also discusses legal positivism, as put out by Hans Kelsen and HLA Hart, to support the need for legislative changes to make room for new, cutting-edge technology like Artificial Intelligence. Moreover, an analysis of John Locke's Labour Theory emphasises the creator's right to intellectual property that results from their labour, highlighting the significance of copyright as a safeguard for creators' rights in the digital era.

Given that Artificial Intelligence lacks legal personality, the dissertation emphasises the difficulties in establishing copyright ownership of content produced by AI. It also discusses the contentious issue of using copyrighted resources to teach AI systems, arguing about the bounds of fair use and the possible effects on original creators' livelihoods. The paper highlights gaps in the current legal frameworks and makes recommendations for future legislative revisions through a comparative review of US and UK laws. In order to ensure that copyright law stays applicable and effective in the face of swift technical breakthroughs, these revisions seek to find a balance between encouraging innovation in the development of AI technology and safeguarding the creators' rights.

By providing insights into how legal systems can change to meet the opportunities and difficulties posed by artificial intelligence, this research adds to the continuing conversation on Copyright law in the era of Artificial Intelligence.

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LIST OF ABBREVIATIONS

1P- Intellectual Property

AI- Artificial Intelligence

CMOs-Collective Management Organizations

DMCA- Digital Millennium Copyright Act

HC-House of Commons

HL- House of Lords

IPO- Intellectual Property Office

KECOBO- Kenya Copyright Board

TDM- Text and Data Mining

UK- United Kingdom

US- United States of America

USC- United States Code

USCO- United States Copyright Office

VCL-Voluntary Collective Licence

WIPO-World Intellectual Property Organization

LIST OF STATUTES

Compendium of US Copyright Office Practices, 2021

Constitution of Kenya, 2010

Copyright Act, 1976

Copyright Act, 2001 (Cap 130 Laws of Kenya)

Copyright, Designs and Patents, 1988

Title 17 of the United States Code, 2012

United States of America Constitution, 1787

LIST OF CASES

CHAPTER ONE: INTRODUCTION

1.0 Background to the Study

The term Artificial Intelligence was first devised by John McCarthy[1] and it involves the use of computer systems and algorithms to simulate and carry out designated functions that would normally require human intelligence. Such tasks include learning, reasoning, speech recognition, problem-solving and decision-making.[2] Due to the rapid development and advancement of this technology, certain sectors have been revolutionized such as medicine, education, military, the creative industry among others.[3] AI systems have demonstrated the ability to autonomously generate content leading to a paradigm shift in the traditional copyright law.

Intellectual Property Law is the area of law concerned with the rights that protect the product of human intelligence and creative effort and comprises of copyright, trademarks, patents, geographical indicators, plant varieties, trade secrets and industrial design.[4] The Constitution of Kenya, 2010 provides that the state shall support, promote and protect the Intellectual Property Rights of Kenyans.[5] Copyright law focuses on providing incentives for the creative output of the human mind [6] by granting authors exclusive rights to reproduce, distribute, adapt, communicate the work and make it available to the public.[7] Additionally, the author has the right to claim authorship of the work and the right cannot be transferred to any other person.[8] Copyright protects the original works of a creator that convey information or ideas and fixed in tangible form.[9] This extends to a wide range of works including literary, musical, dramatic, artistic, audio-visual, sound recordings and broadcasts.[10] Copyright accrues to the author

[1] J McCarthy 'The Dartmouth Summer Research Project on Artificial Intelligence' (paper presented at Dartmouth Conference August 1995) 2
[2] WP Henry, *Artificial intelligence* (2nd edn, Addison-Wesley Longman Publishing Co. Inc 1984)
[3] M Haenlein and A Kaplan 'A Brief History of Artificial Intelligence: On the Past, Present, and Future of Artificial Intelligence' (2019) 61 California Management Rev <https://journals.sagepub.com/doi/pdf/10.1177/0008125619864925 > (4 April 2023)
[4] D BainBridge, *Intellectual Property* (7th edn, Pitman Publishing Imprint 2009)
[5] Constitution of Kenya, 2010 art 40(5)
[6] K Moahi 'Copyright in the Digital Age and Some Implications for Indigenous Knowledge' [2004] <https://worldlibraries.dom.edu/index.php/worldlib/article/download/38/70?inline=1 > (10 October 2023)
[7] Copyright Act, 2001 s26(1)
[8] ibid s32
[9] ibid s22(3)
[10] ibid s22(1)

automatically upon fixation of that work and therefore registration of copyright is not mandatory.[11]

Due to the capabilities of AI to generate content, a complex question arises on matters to do with authorship, ownership and originality of such works. The current legal framework was developed with human creators in mind and therefore its application to AI-generated works presents a complex challenge.[12] This dissertation delves into the intersection between copyright law and artificial intelligence exploring the concept of authorship and ownership and the use of pre-existing copyrighted works to train the AI.

Since AI systems have proven to be capable of making generated content without human intervention, the issue arises on whether copyright protection extends to the AI itself.[13] If not, who owns the creative output? Is it the AI programmer, the user of the AI or the entity which owns the AI?[14] Moreover, copyright law traditionally protects the creativity of the human mind. AI systems operate on algorithms therefore raising questions on whether the output can be considered to be an expression of a creative idea.[15] A work qualifies for copyright protection as long as it is in material form and sufficient effort has been put to make the work original.[16] Originality in mostly requires the input of a human author.[17] This raises the issue of ownership in Artificial Intelligence generated copyright material.

In arguing that the AI itself should own the copyright over the AI generated works, authorship is traditionally attributed to human creators under copyright law.[18] In the matter of *Aalmuhammed,*[19] the court stated that an author is a person who causes the work to come into being. The Copyright Act defines an author as the first person to create the work being protected.[20] However, section 31 of the Copyright Act, 2001 gives an exception where the work was commissioned or made in the authors course of employment under a Contract of Service,

[11] ibid s22(5)
[12] R Malikova *Copyright Protection of the AI-generated Works: Who owns AI-generated works? Can AI be an author? The EU and the UK approach* (Final Thesis Central European University Private University 2023)
[13] A Kirakosyan 'Intellectual Property Ownership of AI-Generated Content' [2023] Digital LJ 22
[14] Ibid 24
[15] C Wanjugu 'Copyright Dilemma as Artificial Intelligence Rises in Kenya' *Nation* (Nairobi Kenya 4 April 2023)
[16] n9
[17] F Omondi 'Protecting Creative Works Developed Through Artificial Intelligence Systems' [2021] Copyright News 5
[18] H Sun 'Redesigning Copyright Protection in the Era of Artificial Intelligence' [2021] Iowa L Rev 107
[19] *Aalmuhammed v. Lee* 202 F. 3d 1227 (9th Cir.2000)
[20] n7 s2

then the work belongs to the employer.[21] From the definition provided under section 2 of the Copyright act, an author is referred to as a person.[22] A person can include a company, an association or a body.[23] The Copyright act also describes an owner of Copyright as either a legal entity or a natural person.[24]

In the matter of *Naruto*,[25] the respondent left his camera unattended and a monkey took photographs of himself with the camera. The People for the Ethical Treatment of Animals, suing as the next friends on behalf of the monkey, sued for copyright infringement claiming that the monkey was the author of the photographs and not the respondent. The issue for determination was whether the monkey could be regarded as the author and owner of the photographs. Court held that the monkey lacked statutory standing to sue under Copyright Law.

There are arguments that an AI cannot own the copyright of its creations as they lack originality, a pre-requisite for copyright protection. The work should reflect an author's creativity and hard-work and therefore a human author is needed for copyright to exist.[26] The US district court is of the same opinion as it was held in the *Sarony* case that creations by AI systems lack creativity hence are not copyright protected. [27] Similarly in *Bleistein v Donaldson Lithographing Co*, court opined that sufficient effort has to be put to give a work an original character and this means that there is the uniqueness of a person's personality. Therefore, copyright protection cannot be extended to anything that is not a product of human intellect.[28]

Furthermore, in the matter of *Bond,* [29] Eve J stated that copyright could only belong to a person domiciled in the terrestrial world. In this case, the applicant was a medium who received messages from a spirit. She used to close her eyes, enter into a trance and write the teachings and messages she received. The defendant, used to transcribe and proofread the works before returning them to the applicant. The defendant wanted to publish the works and this prompted the applicant to move to court claiming copyright infringement. The defendant argued that the works lacked copyright as it they were from a non-human nature source. Court held that the

[21] ibid s31
[22] n20
[23] n5 art 260
[24] n7 s31(3)
[25] *Naruto v Slater* 888 F.3d 418 (9th Circ. 2018)
[26] P Kaindo 'Legal Dilemma in use of Artificial Intelligence in Creation of Copyright Works' [2021] Copyright News 3, 4
[27] *Burrow Gilles Lithographic Co. v Sarony* 111 US 53 (1884)
[28] *Bleistein v Donaldson Lithographing Co* 188 US 239 (1903)
[29] *Cummins v Bond* (1927) 1 Ch. 167

works belonged to the applicant as she was the first person to receive the information and record it into fixed form. Additionally, copyright could only be granted to a human hence it could not be attributed to the spirit that was communicating with the applicant. of work should not hinder copyright protection.

Moreover, in the matter of *Shenzhen Tencent,*[30] the applicant had been made for, an application named 'Dreamwriter' by Beijing Tencent and it had been licensed. The applicant released a financial reporting article and at the end of the article, it stated that "Tencent's robot, Dreamwriter, automatically wrote this article." The defendant without the applicant's consent and permission, reposted the piece on its webpage the same day it was released. The applicant filed a lawsuit citing copyright infringement. The issue for determination was whether an AI generated work can become a work protected under Copyright Law. Court held that the article in question produced by the 'Dreamwriter' software was safeguarded by copyright law because it was not entirely independent of human intellectual operations. The literary material was not generated independently by an AI, but rather as a product of human intellectual work aided by an AI. The defendant had no authority to distribute the allegedly infringing article to the public and as a result, the Court ordered that the defendant pay the plaintiff for economic losses.[31] From the case laws, for copyright to be attributed to a work generated by AI, human intervention has to be present and non-human authors cannot claim copyright protection over the works.

Some authors argue that these works could be considered copyright-free because there is no input by a human author. As a result, anyone could use and reuse the works without restriction.[32] However, the creator of the AI system invested time and labour into creating the AI and therefore it would erode the purpose for creating the system and discourage creativity.[33] The Copyright Act, 2001 provides that where a work that is computer generated, the author is the person whom the arrangements necessary for the creation of the work were undertaken.[34] A dilemma arises where it is unclear if the user or the programmer of the AI is the one who made arrangements to create the work.[35] The user may be the author as they prompted the AI

[30] *Shenzhen Tencent v. Shanghai Yingxun* (2019) Guangdong Y0305 No 14010
[31] n7 s26(3)
[32] D Baker and P Robinson *Artificial Intelligence and the Law; Cybercrime and Criminal Liability* (1st edn Routledge 2020)
[33] n17
[34] n7 s2
[35] n12

to create the work and the programmer may also be regarded as the author as they created the algorithm that produced the output prompted. [36]

Besides the issue of authorship and ownership, the dissertation investigates the use of pre-existing copyright protected works to train the AI models. This is done through inputting data, analyzing extensive datasets, learning to make predictions and then generating content.[37] This is referred to as Text and Data Mining (TDM).[38] This raises questions regarding copyright infringement, whether the AI owners require licences or whether the acts constitute fair use.[39]

In the matter of *Kadrey v Meta Platforms Inc*,[40] the respondent developed and released its artificial intelligence software. It trained the software by exposing it to massive amounts of data from different sources. Among those sources were books authored by the claimant. The claimant brought a putative class action against the respondent alleging direct and vicarious copyright infringement, violation of the Digital Millennium Copyright Act, unfair competition and unjust enrichment. The respondent moved to dismiss, arguing that the plaintiff's did not allege that the output was substantially similar to their copyrighted books and also that portions of the copyrighted passages appear in the software's code, but instead were claiming infringement based on the use of content from the books to train the AI. The court agreed with the respondent. Because the complaint did not assert that any output generated by the software contained protectable content that altered the books, the plaintiffs' claim of vicarious copyright infringement was unsuccessful. Court held that without an infringing output, there can be no vicarious infringement. The claim under the DMCA failed because there was no proof that the respondent's software generated and distributed copies of the claimant's books. In dismissing the cause of action for direct copyright infringement, the claim was premised on the theory that the software itself was an infringing derivative work. Court held that the AI itself was in no way an adaptation of the claimant's books

The court concluding, stated that the plaintiffs would either have to allege that the software's outputs were actual copies of their works or that the outputs were almost similar to their works such that they are derivative works. The plaintiff could also bring an action for direct

[36] ibid
[37] YF Lim *Cyberspace Law Commentaries and Materials* (2nd edn OUP 2007)
[38] J Holdsworth 'What is Data Mining?' <https://www.ibm.com/topics/data-mining > (14 February 2024)
[39] K Tyagi 'Copyright, Text & Data Mining and the Innovation Dimension of Generative AI' (2024) 19 JIPLP 557 (14 February 2024)
[40] 23-cv-03417-VC (N.D. Cal. 2023)

infringement based on the respondent's alleged unauthorised copying of the plaintiff's books when training the software.

Moreover, in the case of *Andersen v Stability AI Ltd,*[41] the plaintiff and other artists claimed that the respondent; Stability AI Ltd, had acquired copies of copyrighted images without their permission and used them as training images for visual generative AI. The plaintiffs alleged that through their works, the AI could be able to produce output images in their particular artistic styles. The issues for determination were whether there was direct copyright infringement, vicarious copyright infringement, violation of the DMCA, violation of the right of publicity and unfair competition.

On the first issue, court held that the respondent had acquired copies of the plaintiffs' copyrighted works, used those works to train the AI, and then incorporated the training images into the AI system. On the issue of vicarious infringement, the court dismissed the claim as there was no plausible facts that the copies of training images were still present in the respondents' studios and the plaintiffs' failure to identify how defendants' AI platforms had been used in an infringing manner by third parties. Next, on the issue of violation of the DMCA claims, there lacked clarity as to what the defendants had removed or altered with the knowledge of doing so to conceal copyright infringement. Was it the title of the works, the authors or copyright owner of the work

On the right of publicity claims, there was no evidence showing that the defendant has used the plaintiffs' names to advertise and promote the AI platform. There were no facts showing that use of the plaintiffs' name would produce an AI generated image that was similar to their artistic style and that a person would believe that it was the plaintiffs who created the image. On the last issue of unfair competition, the court found that there was no proof how the respondents used the plaintiffs' names or associated their work with the plaintiff. In conclusion, the court dismissed the plaintiffs' claims as they did not sufficiently allege substantial similarity between the AI, the generated outputs and their own works.

From the above cases, it is clear that there are questions on use of copyrighted works to train the AI systems and therefore, this paper aims to navigate the issues and complexities arising from the intersection of copyright law and AI by examining case studies and legal frameworks

[41] 3:23-cv-00201 (N.D. Cal.2023)

and ultimately proposing a framework that effectively addresses the challenges posed to continue fostering creativity and encourage invention of AI technology.

1.1 STATEMENT OF THE PROBLEM

The current copyright law does not address the complexities arising on who owns the copyright in AI-generated works despite the rapid technological advancement.[42] Furthermore, since the process of developing AI entails training it on extensive volumes of already existing copyrighted works, concerns arise about potential copyright infringement. This complexity requires a re-evaluation of copyright law to continue encouraging creativity and to balance the rights of copyright holders and AI developers.

1.2 OBJECTIVES OF THE STUDY

To examine the concept of authorship and ownership in AI generated works

To investigate the legal implications of using copyrighted works to train AI systems

1.3 RESEARCH QUESTIONS

Who should be recognized as the copyright holder of AI generated works?

Whether using copyrighted works in training AI systems can be considered as fair use.

1.4 RESEARCH HYPOTHESES

The programmer of the AI has copyright over the AI generated work.

Training AI systems using copyrighted work qualifies as fair use.

1.5 SIGNIFICANCE OF THE STUDY

This study is pivotal as it will benefit different categories of persons including creators of copyrighted works and the developers of the AI technology. By addressing the issues arising, the authors of copyrighted material can safeguard their IP rights against unauthorized use and they will be compensated for the use of their works.

[42] n30

This study will also ensure that the AI developers will avoid any legal risks related to the use of copyrighted works and due to the legal certainty that will be provided, they can protect their investments in AI technologies.

Ultimately, the public as whole will be educated and this will ensure the responsible use of AI.

1.6 RATIONALE OF THE STUDY

As AI technology continues to advance, there is need for the copyright law to adapt to these new developments. There are shortcomings in the present copyright law on matters concerning AI and their creations hence the need to examine the law to address the issues arising from the unprecedented challenges.

1.7 PURPOSE OF THE STUDY

The purpose of this exploratory study is to examine the complexities that arise due to the intersection between copyright law and AI.

This study will explore whether there is need to amend the current copyright law to accommodate the emerging AI technology

1.8 LIMITATIONS OF THE STUDY

The time required to do this study is not enough to exhaust all aspects that dwell into Artificial Intelligence Creations in Intellectual Property as there is a timeline to work with.

Moreover, the resources available for this study are limited as it is a relatively new area of legal inquiry.

1.9 SCOPE OF THE STUDY

This study will focus on the developers of AI and creators of works eligible for copyright protection.

1.10 THEORETICAL FRAMEWORK

The following theories are relied on in this research.

1.10.1 Utilitarian theory

This dissertation is premised on the utilitarianism theory by Jeremy Bentham and John Stuart Mill which provides that the purpose of law is to bring happiness and well-being to the greatest number of people.[43] Utilitarianism emphasises the balance of pleasure and pain arguing that whatever activities that result to happiness are right and if they bring unhappiness, they are wrong. In the context of legal systems, this idea emphasises the need to create laws that promote societal wellbeing.

Copyright laws are an excellent example of how utilitarian ideas can be used in legal systems to improve the society and bring happiness. Copyright laws provide creators with exclusive rights to their works, providing economic incentives to create and develop the works.[44] Creators can monetise their works serving as a motivator to continue creating original content as their efforts are recognised and rewarded hence fostering continued innovation. The laws promote continued invention by ensuring that creators can profit financially from the works hence contributing to economic growth.

Copyright laws strike a balance between creators and the publics interests by granting the creators temporary exclusive rights before the works enter the public domain.[45] This ensures that the society can benefit from the creative content within a fair time frame, adding to the society's general happiness.

Copyright laws, using this perspective, promote both economic and cultural development, coinciding with the utilitarian goal of maximising enjoyment and happiness for the greatest number of individuals. Copyright laws promote a dynamic society by preserving creators' rights and promoting innovation.

1.10.2 Legal positivism

Legal positivism coined by HLA Hart and Hans Kelsen contends that laws are rules made by people and authorities rather than derived from a higher moral authority.[46] According to this theory, the validity of law stems from its development by authorities who have been given that power and by following the correct procedures rather than its ethical content. Legal

[43] LB Curzon *Lecture Notes Jurisprudence* (2nd edn Cavendish Publishing Ltd London 1995)
[44] D Saunders *Authorship and Copyright* (1st edn Routledge London 2023)
[45] ibid
[46] B Tarigan 'Law and Morality: The Hart and Fuller Debate' 6 Syiah Kuala LJ (2022)

positivism holds that law is the result of human judgments and society norms, laws are enacted by specified entities with authority using the proper procedures as the case in Kenya, the Legislature is mandated to make and amend laws[47] and that laws legitimacy is not determined by its moral accuracy.[48]

This theory offers a framework for comprehension on how copyright laws are enacted, amended and enforced in a jurisdiction. It emphasises the need for copyright laws to be enacted, amended or repealed by appropriate legislative entities to ensure their relevance and effectiveness to meet the current needs in a fast-changing technological context. [49]The rapid growth of technology has had substantial impact on creative works and as a result, copyright laws need to keep up with the changing times.

Legal positivism posits that the laws should be adaptable to such changes through effective legislative processes. It is therefore necessary for copyright law to adapt to the new technologies to protect creators and this ought to be done through amendment following the correct procedures for the laws to be recognized.

1.10.3 Labour theory

The Labour Theory proposed by John Locke suggests that one acquires property and resources by putting his labour to it. According to Locke, when a person combines their labour with an object, they create a natural right to ownership over it.[50] This theory emphasises the relationship between effort and ownership stating that labour adds value to resources hence legitimising a claim of property rights.

The Constitution of Kenya, 2010 defines property to include Intellectual Property.[51] This constitutional acknowledgment emphasises that copyright is granted to persons who have expended sufficient effort to the work by virtue of the Copyright Act.[52] By investing one's time and labour into the creations, individuals have a right over the Intellectual Property.

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[47] n5 art 94(5)
[48] R Parker 'Legal Positivism' 32 Notre Dame Law Rev (1956) <http://scholarship.law.nd.edu/ndlr/vol32/iss1/3?utm_source=scholarship.law.nd.edu%2Fndlr%2Fvol32%2Fiss1%2F3&utm_medium=PDF&utm_campaign=PDFCoverPages> (7 August 2024)
[49] n32
[50] R Wacks *Understanding Jurisprudence: An Introduction to Legal Theory* (6th edn Oxford University Press Great Britain 2020)
[51] n23
[52] n9

Creators have a right to property derived from the fruits of their labour and as such copyright law is aimed to provide incentives for the hard-work and effort.

1.11 RESEARCH METHODOLOGY

This research will adopt a qualitative approach from both primary and secondary sources by analysing existing laws, case laws and legislative frameworks related to copyright law in relation to AI.

The study will also be based on gathering and analysing journal articles, books, reports, issues and internet materials to find answers to questions posed.

1.12 CHAPTER BREAKDOWN

Chapter One: INTRODUCTION

The essence of this chapter is to introduce the study by providing background knowledge of the topic and the gaps arising. The chapter gives the reader a general understanding of the paper by including the Problem Statement, the objectives, the research questions, research hypotheses, significance of the study, the rationale of the study, its purpose, the limitations and the theoretical framework.

Chapter Two: LITERATURE REVIEW

This chapter focuses on the Literature Review. This will integrate the prior studies made in relation to what is already known in Copyright Law in protecting Artificial Intelligence creations. It will identify the position taken by authors and the gaps present to contextualize the current studies.

Chapter Three: COMPARATIVE ANALYSIS

This chapter makes a comparative study of the legal and institution framework in the United Kingdom and United States of America and what their courts have held in matters of copyright in AI systems. These jurisdictions will also be compared to the stance taken by Kenya.

Chapter Four: FINDINGS

This chapter will highlight the findings that will be drawn from the study on the intersection of copyright law and AI.

Chapter Five: SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter will summarize the research, make a conclusion and provide recommendations on the best way forward for Copyright Law to adequately protect the AI systems and technologies.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

AI is a relatively new area of study that encompasses different sectors including education, medicine, military and many more.[53] The idea of AI however started as early as the 1940's where an AI machine was able to decrypt messages.[54] Major progress has been realized in the recent past and the question of IP rights protection in AI has sparked interest. Many publications have focused on the history and development of AI and the impact it may have. There is however a gap in addressing the ownership rights of AI creations and the training of the AI systems. This chapter will analyse the publications present on the issues arising and the opinions of the authors to come up with a conclusive answer to the questions posed.

2.2 OWNERSHIP OF AI GENERATED CONTENT

Davies (2018),[55] says that there is a quagmire in determining authorship of AI generated works. He focuses on the UK copyright law which provides that authorship of computer-generated works is granted to the person who made arrangements for the creation of the work.[56] He questions whether the person is the original programmer, the data operator or the owner for the time being of the program. In analysing authorship of the generated works, he begins with the AI programmer. The author states that where an AI programme continually rewrites its basic programme to adapt to new circumstances, the subsequent alterations should not be attributed to the programmer but to the AI itself as long as the new material produced is original.[57] He also questions where the AI is sold, would the copyright be vested in the original programmer or the buyer who invests in the further development of the AI to produce new and improved creations? He suggests that the programmer may only have moral rights and once he has finished working on the AI, he has no claim to any further Intellectual Property Rights arising from its creations.[58] He touches on the user of AI having copyright

[53] R Pearlman 'Recognizing Artificial Intelligence as Authors and Inventors under U.S. Intellectual Property Law' [2018] Rich JL & Tech< https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/jolt24&section=8 >(31 July 2023)
[54] n3
[55] CR Davies 'An Evolutionary Step in Intellectual Property Rights- Artificial Intelligence and Intellectual Property' (2011) 27 CLS Rev 24
[56] Copyright, Designs and Patents, 1988 S9(3)
[57] n55
[58] ibid 25

over its creations and he says that there is no substantial skill and labour put into the generated work hence they have no entitlement.[59]

The author looks into the AI itself as having copyright and proposes that this is the best option as years to come, the AI themselves will be writing advanced programs for further developments.[60] He indicates that there is no proviso that creativity should emanate from a human and since AIs are capable of being creative and produce original works, copyright be granted to them. He states that if a body corporate has the ability to hold copyright, then similar status can be granted to AIs to hold copyright to their creations.[61] He acknowledges an issue may arise on matters to do with responsibility of the AIs. Due to this setback, he gives a proposition that contracts be entered into which provide that the person or body corporate in charge of the AI is responsible and accountable for its actions.[62] Through that, authorship belongs to the AI but the person denoted in the contract acquires economic benefit. When it comes to duration of protection of the AI generated works, the author proposes that the law should be modified to provide for the time which copyright will subsist, for instance, fifty years since date of generation of the work.[63] In conclusion, the author states that the law should be proactive and not wait for problems to arise before attempting to resolve them.

The author, however, focuses on UK copyright law and its consequences for AI-generated works. It does not delve far enough into how other jurisdictions with advanced AI policies approach the issue. A comparative analysis may provide a more comprehensive knowledge of the global difficulties and potential solutions to AI-generated copyright. In addition, the author briefly acknowledges moral rights, but does not go into detail on how they would apply to AI-generated works as they, have generally been associated with human artists. The article could look into whether and how these rights should or should be applied to AI-generated works, as well as what this means for AI users and owners.

[59]ibid 30
[60] ibid 37
[61] ibid 44
[62] ibid 53
[63] ibid 70

TB Yamamoto (2018),[64] writes that works created by AI provide people with what they demand for hence protecting them and encouraging their creation serves the public interest. He bases his argument on the vehicle theory which states that without an exclusive right like this, no one would be willing to pay for the enjoyment of works. Copyright, as a bundle of exclusive rights, is a vehicle to turn enjoyment of works into merchantable commodities that can be bargained for in markets.[65] He therefore states that AI works ought to be protected so long as there is consumers' demand for them. Through copyright, there will be a reward and in turn increased supply of the works. The author argues that those who can increase supply of AI works should be vested with copyright. In this case, the programmer of AI should be vested with copyright as only they can control supply of the works.[66] They can increase the works by increasing the production of AIs and the data used to train AIs. He suggests that the term of copyright protection for the works should be twenty years at most.[67] This is because long term protection of copyright is not necessary for authors as copyright should not be used as a financial asset since it restricts free use of works by the public. Concluding the article, he states that the copyright system in the age of AI should be recognized from the view of the Vehicle Theory.

There are several gaps in the author's research as he does not address the ethical implications of extending copyright to non-human creators. For example, what are the broader societal ramifications of placing copyright in the hands of AI programmers? The essay does not delve into the potential ramifications, such as the concentration of copyright rights and economic power among a small number of corporations capable of building advanced AI systems. While the essay advocates for a shorter copyright term of twenty years, it does not thoroughly address the significance of the public domain. The public domain is crucial for promoting creativity and innovation but there should be a consideration of how AI-generated works entering the public domain may affect cultural and technical growth.

In commenting on ownership of AI generated content, [68] Tripathi (2018) observes that copyright can be granted to such works. However, the current status of the law does not

[64] TB Yamamoto 'Artificial Intelligence Created Works and Copyright' (2018) 48 Patents & Licensing <https://www.itlaw.jp/AI%20Created%20Works%20and%20Copyright.pdf> (10 July 2024)
[65] ibid 26
[66] ibid 30
[67] ibid 37
[68] S Tripathi and C Ghatak 'Artificial Intelligence and Intellectual Property Law' [2018] Christ ULJ <https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/chulj7&section=10> (10 July 2024)

address this issue as there is requirement of a legal personhood of a copyright holder. AI lacks this personhood and as such, she says that copyright cannot be granted to an AI.[69] She suggests that the AI developer can be granted copyright of the generated content but there is a loophole in this suggestion. She questions that if an AI is purchased, will the copyright belong to the developer or the purchaser especially where it was not a work for hire? She reviews that liability of AI systems is also an issue where an AI is used in committing a crime. If copyright is said to belong to the AI creator, then they will be liable for crimes they commit even without *actus reus* and *mens rea. Actus reus* is the act of committing the crime while *mens rea* is the malice aforethought.[70] The author observes that there is a loophole that is difficult to fathom in the present position of AIs under copyright law. The author recommends the need to develop guidelines to grant a collaborative manner of copyright protection for the outputs made by an AI. This is because a human element is needed in managing AIs even though others maybe autonomous.[71] In addition, by doing so, the autonomy of AI won't diminish human intelligence and creativity. Further, copyright ought to be granted to a human in case of a violation of law, there is someone to hold liable. She suggests that there be uniform regulation of AIs by countries by amendment of TRIPS Agreement so that not only a few countries recognise this development. Moreover, the author recommends the drafting of a legislation that governs the acts of AI, its violations and remedies for offences committed by an AI.[72]

The essay briefly discusses the potential ownership rights of AI developers and purchasers, but it does not delve into the role of users who operate the AI. If a user provides significant creative direction or parameters, there may be a case that they, too, have a claim to the copyright. The distinction in ownership rights between developers and end users is not adequately examined. The essay expresses concern about liability and a lack of human responsibility when AI is involved in illegal activity. However, it does not thoroughly investigate the ethical issues of assigning ownership or accountability in circumstances where AI acts autonomously.

While the essay recommends that humans should be awarded copyright in order to assure liability, it does not address the practical issues of implementing such legislation. How would

[69] Ibid 11
[70] ibid 19
[71] ibid 27
[72] ibid 30

the law apply liability in complex AI systems where the distinction between human and AI conduct may be blurred? This is especially relevant when assessing the feasibility of proposed legal reforms. The article advocates changing the TRIPS Agreement to provide uniform regulation of AI across countries, but it does not specify what precise adjustments are required or how they would be implemented. What particular amendments to the TRIPS Agreement would be required to meet the concerns of AI-generated material, and how would these changes be negotiated internationally? Finally, the essay says that providing copyright to people assures that AI autonomy does not reduce human intelligence and creativity, but it does not explain how to strike a balance between encouraging AI innovation and preserving human originality. There is a need to investigate how the law may promote both human and AI-driven creativity without damaging the other.

Palace (2019),[73] notes that the current copyright law fails to address adequately the ownership question regarding works generated by autonomous AI. He looks at three categories that ownership would be granted namely the AI, the user, programmer or AI company and immediate entrance into the public domain. He says that those in favour that the AI itself be granted authorship state that that as long as the requirements for originality and fixation are met, then copyright be granted to the AI. He critics this that only human authors have standing under copyright law and granting it to an AI raises questions on enforcement of the right.[74] In addition, copyright laws were established to incentivize people by providing exclusive rights and AIs, being machines, need no incentive to create hence granting copyright to it is meaningless. In granting copyright to the user, programmer or AI company, he says that this would be done by expanding the work for hire doctrine to include works generated by a computer when there is no human author. This means that the works would vest in the employer and to determine an employer in this case, will be in accordance with the Law of Agency. However, he states, this would over-reward the employer. Where the employer is the programmer, they would be rightfully rewarded for the code but since they did not essentially create the works generated, and they would own everything the AI is capable of creating, they would be over-rewarded.[75] Turning to the user of AI, they would freely use or build upon the works whereas the AI company would benefit not only from the creations but through sales and licensing and therefore over-rewarded. The author suggests

[73] VM Palace 'What if Artificial Intelligence Wrote This? Artificial Intelligence and Copyright Law' (2019) 71 Florida L Rev) 40
[74] ibid
[75] ibid 48

that the best approach is that no copyright should be granted and the public to freely use the works.[76] This is because no person generates the work and therefore no person should be awarded copyright. He says that players involved in creating the AI would be fully rewarded despite lack of copyright due to incentives inherent in the AI industry. In addition, this would foster cooperation between AI and humans in the creative fields as advances in the AI generated content will not render humans unemployed. This will also ensure humans are an integral part of the creative industry.

While the essay addresses the possibility of placing AI-generated works in the public domain, it does not go into detail about the implications of this approach. The author does not consider the impact on innovation, competition, and the creative industry. Furthermore, the essay does not address the potential consequences of putting all AI-generated works in the public domain, such as the loss of incentives for AI growth. In addition, the economic consequences of denying copyright to AI-generated works are not well addressed. The author is of the opinion that believes that players in the AI sector would be sufficiently compensated in the absence of copyright protection, but it does not investigate how this would influence the long-term viability of innovation and creativity within the industry. For example, it is uncertain how smaller businesses or independent developers may be impacted.

The essay discusses how putting AI-generated works in the public domain can encourage cooperation between AI and humans. However, it does not thoroughly investigate how AI might be utilised as a tool to promote human creativity, or how joint efforts between people and AI might be structured to assure equitable recognition.

2.3 TRAINING OF AI SYSTEMS USING COPYRIGHT PROTECTED WORKS

Gervais (2019),[77] says that the development of AI relies on massive amounts of copyrighted materials. There is no uniform standard on how the works can be used in AI technologies worldwide as there is cross-border use. He states that there are three ways in which this legal dilemma will be resolved that is; legislation, court decisions and market-based solution.[78] On the first one, the author states that it will be difficult as countries will enact laws providing

[76] ibid 55
[77] D Gervais 'The Machine as Author' [2019] Iowa L Rev <https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/ilr105&section=56> (10 July 2024)
[78] ibid 7

guidance within their jurisdiction. Relying on such would pose an issue where developers will have to comply with different countries laws for a single AI system hence discouraging the invention and innovation of the technologies.[79] Looking at the second option of court decisions, the author opines that they may take long for a decision to be reached, numerous legal fees and uncertain outcomes that may lead to creation of even more questions.[80] In addition, the court decisions may also vary from jurisdictions and this will not put an end to the dilemma. He states that the market- based solution is the best option and advocates for licensing which can cover many jurisdictions.[81] The author suggests that copyright holders and AI developers should negotiate on the use of the works as training data. He states that since it is not sensible for a developer to identify every copyright holder and then contact them to enter into agreements taking into account language and currency barriers, there should be a Voluntary Collective License (VCL). This will enable fair payments to copyright holders, allow developers to use quality works without litigation issues and transparency in the works used. He says that this may not fully resolve the issue but would pave way for the future.[82]

The are issues that have not been addressed in the essay. It does not discuss the potential application of the fair use doctrine in the context of using copyrighted materials to train AI. Fair use is an important feature of copyright law that may allow AI developers to utilise copyrighted material without authorisation under certain conditions, particularly if the usage is considered transformative. The essay supports a VCL scheme but does not address how it would affect smaller creators as there is a risk that they will be marginalised during negotiations or that their works would be undervalued in comparison to those of larger corporations. The essay does not look at how to ensure that all creators, regardless of their popularity, are fairly compensated under a VCL system. While the essay discusses the issues of different national laws, it does not delve deeply into the challenges of implementing license agreements or court decisions on a worldwide basis. How would a VCL system work across legal jurisdictions, and what methods would assure compliance in nations with varying copyright laws? This is a substantial gap, considering the cross-border nature of AI development.

[79] ibid 18
[80] ibid 22
[81] ibid 27
[82] ibid 34

Quang (2021),[83] states that large datasets are needed to train AIs to learn and imitate human thinking and the data used may be subject to copyright presenting potential violation of copyright law. The author focuses on the United States copyright law. He questions that if a human can learn from reading and studying without infringing copyright, then why can't a machine do the same? The author says that the fair use doctrine is normally invoked in these cases and he highlights two cases. Firstly, the matter of *Perfect 10 Inc. v Amazon.com Inc*,[84] where court held that the use of copyright images by the defendant was fair use because it was transformative. The images were taken for entertainment purposes whereas the respondent used them in their search engine and were transformed into pointers guiding a shopper to a source of information. Secondly, the court in *Author's Guild Inc. v Google Inc*.,[85] opined that although the respondent scanned full texts of the plaintiffs' books, only snippets were displayed in the search engine and were used as pointer to users to the books themselves. This, therefore, was fair use as it was transformative. The author, however, says that fair use should not be adopted as it is not straightforward, it has limitations and there is uncertainty. He supports this reason through a matter where the respondent's defence of fair use was rejected.[86] The respondent had used photos of designed rooms in his search engine to show apartment listing. The use did not change the original purpose of the photos which was to artfully showcase rooms and properties.

The author states that it will be more ideal for AI developers if a clear safe harbour in copyright law allowed the use of works in training data.[87] He argues that there is no copyright infringement when images from the internet are used in training data. The author contends that because they are merely non-expressive copies of material forms, some actions of copying do not violate copyright. It is acceptable to duplicate the works in this way; the AI developer utilises them to train the AI rather than redistributing or communicating with them. According to him, the functional aspect of a work is not protected by copyright, and the AI developer is primarily concerned with the functional aspects of the works. He therefore opines that by allowing the use of copyrighted material as training data, it will broaden the goal of copyright which is to incentivize and increase public knowledge. By providing a safe harbour in copyright law for data mining, it would encourage innovation as developers will

[83] J Quang 'Does Training Artificial Intelligence Violate Copyright Law?' (2021) 36 Berkeley Tech LJ)
[84] 508 F.3d (9th Cir. 2007)
[85] 804 F.3d (2d Cir. 2013)
[86] *VHT Inc. v Zillow Group Inc. 918 F3d* (9th Cir.2019)
[87] n83

have open access to copyrighted works as training data.[88] In addition, by providing legal certainty, small innovators will easily develop AI technology hence competing fairly with the well -established companies.

The author comments that licensing of the training data is not an option as it will burden developers and will be an overreach of copyright holders' rights. The data used in training is massive and is normally obtained through an automated process. Licensing of the data will require developers to go through the data, determine which ones are copyrighted and seek permission from creators. He proposes that the safe harbour should essentially define data mining, allow the use of copyrighted work for data mining purposes and be limited to the functional, non-expressive uses of data mining. He suggests that United States should learn from Japan which has updated its laws to include data mining exceptions providing guidance on copyright issues related to AI. Japan has authorized the use of copyrighted works for machine learning and verification of data. Through this, Japan has set precedent that can be learnt from to nurture the growth of AI technology. In conclusion, the author recommends there should be a clear guide on the use of copyrighted materials to train AI, consistent with the aim of Copyright Law; to incentivize creators and rather than relying on courts decisions, the congress should enact a data mining safe harbour.[89]

While the author mentions that a safe harbour could assist small inventors compete with giant corporations, the essay does not delve far enough into the potential economic and market implications of such a provision. How would a safe harbour influence competitiveness between small developers and big tech giants? Will it actually level the playing field, or will it have unexpected consequences? The article does not address the possibility of abusing a safe harbour provision. Without clear boundaries, huge corporations may abuse the option to utilise copyrighted content extensively, potentially injuring creators and lowering the value of original works.

Lin (2023),[90] states that AI systems can be biased and this is due to the training data fed into them. Most of the data used to train AI algorithms is often copyright protected and AI developers choose to train using limited data. Therefore, there is biasness realized in the AIs as the databases used are not vast. The author suggests that using copyrighted work to train

[88] ibid 20
[89] ibid 27
[90] PK Lin 'Fair's Fair: How Public Benefit Considerations in the Fair Use Doctrine Can Patch Bias in Artificial Intelligence Systems' (2023) Indian JL & Social Equality 11

AIs should be regarded as fair use to reduce the likelihood of biasness. He says that using the copyrighted works as training data is transformative use under the fair use doctrine. The author states that due to the legal uncertainty regarding using copyrighted material as training data for AI systems, the developers rely on works in the public domain. The works were mostly published before 1923 and focus on the wealthy, rich whites. Training AIs exclusively on these works would lead to biasness especially on topics that were rarely discussed then compared to today such as LGBTQ, women rights and black people. In conclusion, the author says that biased AI developers will produce biased AIs but the law has the power to reduce such biasness by interpreting the fair use doctrine to include use of copyrighted works as training data. As such, the public will benefit by reducing discrimination issues realized as a result of biasness in the AI systems.

The essay mostly addresses the issue of bias without diving into alternative strategies to alleviate it. It is critical to investigate ways for detecting and mitigating biases in training data. This could include methods such as data cleaning, rebalancing, and augmentation.[91] The essay recommends that using copyrighted materials for AI training should be considered fair use in order to eliminate bias, but it does not discuss the ethical issues of using intellectual content without the permission of the rights holders. There is a need to investigate how the rights and interests of copyright holders might be balanced against the public interest in eliminating AI bias. While the essay focuses on increasing the usage of copyrighted material as a remedy to AI bias, it does not consider alternative options. For example, how may creating diverse and inclusive datasets—without relying on copyrighted materials—help to reduce bias? Furthermore, the prospect of a collaboration between AI developers and content providers to license copyrighted assets for training purposes is not addressed.

Tollance (2023),[92] notes that there is a *sine qua non* behind AI that requires a legal answer. Companies believe that use of copyrighted content to train AIs should be considered fair dealing whereas copyright owners consider it as misappropriation of their works. AI algorithms rely on data to perform tasks and its accuracy is dependent on the quality and quantity of the data.[93] Issues arise where copyrighted works are used and licenses from copyright owners are not obtained. The author proposes the concept of fair training, where

[91] n37
[92] AW Tollance and Others 'Training is Everything: Artificial Intelligence, Copyright and Fair Training' [2023] Dickinson L Rev <https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/dknslr128&section=8 > (10 July 2024)
[93] ibid 11

use of the works be considered legal and transformative use. The trained AI learns and transforms the data into new knowledge and is not reproducing the original works. Therefore, there is no copyright infringement. He looks at the two sides of the coin, those in favour of the fair use doctrine and those against. On the first one, those in favour advocate for it as there will be continued development of AI and society will fully benefit from it as the AI will develop the ability to produce more advanced output.[94] Additionally, there is no commercial benefit from the works as they are used to train the AIs to produce new works. It will also benefit the society as a whole as there will be efficiency and accuracy in various sectors that use AI such as healthcare. Those against the fair use doctrine state that AI mimics human thought and therefore there will be production of similar works. There is also creation of derivative works hence the need for permission from copyright holders and there will be market harm as the AI outputs may bring about competition, replacing the original works.[95] The author opines that AI shows extreme potential to benefit the society and to maximize those benefits, they need to be trained through vast volumes of works including the copyright protected ones. Therefore, the principle of fair use should be applied to determine the use of such works. Where the AI generates output similar to copyrighted works, then this should be regarded as copyright infringement.[96] He says that a challenge may arise where creators may put mechanisms that stop AI systems from using their works. Concluding, the author says that there is need to balance between the protection of copyright holders and AI technology due to the potential implications. It is therefore crucial to have a clear legal framework as it will determine the future of AI.[97]

While the essay acknowledges the possibility of market harm to copyright holders, it does not consider alternate licensing structures that could balance the interests of both AI developers and copyright owners. Creating innovative license models could encourage innovation while providing appropriate recompense to creators. The essay briefly acknowledges the potential of creators putting systems in place to prevent AI from utilising their creations, but it does not go into detail about what these mechanisms are or how they may be implemented. Practical ways to safeguard copyrighted works from unauthorised usage by AI systems could include the future use of blockchain technology, digital rights management (DRM), or watermarking.

[94] ibid 17
[95] ibid 28
[96] ibid 30
[97] ibid 34

The essay fails to address the probable disproportionate impact on small or independent creators. While huge organisations may have the means to defend copyrights and negotiate licensing, smaller creators may be more vulnerable to their creations being exploited without remuneration. The article could look into how these artists can be protected and what measures can be implemented to maintain justice.

Although the essay advocates for a clear legal framework, it does not address the long-term repercussions of various legal systems. For example, how can alternative interpretations of fair use or the establishment of new legal standards effect AI development and copyright law in the coming decade or more? Addressing these potential long-term outcomes will provide a fuller understanding of the stakes involved. The essay does not address the use of Creative Commons licenses or open-access content in AI teaching. These resources could be utilised to train AI without infringing on traditional copyrights, and investigating this possibility may provide a feasible compromise that promotes both innovation and intellectual property protection.

2.4 Conclusion

This chapter notes that there are diverse opinions on how the AI generated works should be treated and the use of copyrighted works to train the AI systems. However, the common stance is that the current legal framework is inadequate in addressing these issues and there is need to amend the laws to provide legal certainty. This will ensure that there is clarity in the intersection of copyright law and AI.

CHAPTER THREE: COMPARATIVE ANALYSIS OF THE UK AND US LEGAL AND INSTITUTIONAL FRAMEWORK

3.0 Introduction

The challenge of copyright law in effectively protecting AI systems is being experienced globally. This is due to the rapid technological advancements and the law is yet to catch up. However, there are some countries that are on the move to combat these issues by amending existing laws, enacting new legislations, through court cases and policy reviews.

This research takes a comparative study of UK and US on how the jurisdictions' legal and institutional framework addresses the issues arising. The jurisdictions have been chosen for various reasons. First, the development of AI is a major part of the economy of these countries and as such an examination of how their copyright law addresses these developments in technology will provide valuable insights. Moreover, there are differences in their legal systems where in the US, copyright law is mainly interpreted through court decisions whereas in the UK, the statutes heavily influence copyright law. In addition, these jurisdictions have extensive legal frameworks regarding IP protection and are on the pathway to creating regulations regarding IP protection in AI.

Through this comparative analysis, an in-depth analysis of the approaches taken in dealing with issues arising in copyright law in AI development will be critical in fostering informed decision-making. It will also be effective in ensuring the best approaches are taken to harmonize the intersection between copyright law and AI and eventually a foundation for legal framework internationally to balance the rights of creators and encourage innovation

3.1 Legal Framework of the UK

3.1.1 Copyright Designs and Patents Act

This is the cornerstone of UK legislation relating to copyright law.[98] The Act provides that for a work to be copyright protected, it has to be original; there has to be sufficient skill and labour[99] and be in material form.[100] The test for originality is that the work has to have an

[98] D Hong *An Analysis of UK Copyright Law on 3D Printing and Product Design (*Doctor of Philosophy Thesis Bournemouth University 2020)
[99] n56 s1(1)
[100]ibid s3(2)

element of the author's personal input,[101] be as a result of creativity,[102] indicate the author's own views or style rather than being a copy of previous work[103] and should not be as a result of solely following technical guidelines.[104]

The act provides that in the event that a literary, musical, dramatic or musical work is produced by a computer, the person who established the essential provisions for the creation of the work is regarded as the author.[105] This clause essentially gives ownership of the copyright to the person that gives instructions to the AI system and not the AI itself. It allows for copyright protection in computer-generated works where there is no human author.

According to section 178 of the act, a computer-generated work is defined as one that is produced by a computer without human involvement.[106] A difference is apparent where literary, musical, artistic and dramatic works are granted copyright protection for the lifetime of the author and fifty years after their death.[107] However, for computer-generated works, copyright subsists for fifty years from the time the work was made.[108] In addition, the act provides that one has the right to be identified as an author of the work, commonly known as moral rights.[109] This, however, does not apply to computer generated works.[110]

The Act provides that a copyright owner has the exclusive right to control some acts in relation to their work.[111] These include the copying and reproduction of the work in any material form,[112] distribution of the work by way of sale, hiring or loan,[113] performance of the work in public through speeches or presentations,[114] broadcast of the work[115] and adaptation or modification of the work.[116] The act, however, provides exceptions for these exclusive rights. Of relevance is Section 29A which provides that using a work for non-commercial

[101] *THJ Systems Ltd v Sheridan* [2023] EWHC 927 (Ch)
[102] *SAS Institute Inc. v World Programming Ltd* [2013] EWCA Civ 1482
[103] *Football Dataco v Yahoo! UK Ltd* [2011] ECDR 9
[104] *FA Premier League v QC Leisure* [2008] EWHC 1411 (Ch)
[105] n56 s9(3)
[106] ibid s178
[107] ibid s12(1)
[108] ibid s12(7)
[109] ibid s77(1)
[110] ibid s79(2)
[111] ibid s16(1)
[112] ibid s17
[113] ibid s18
[114] ibid s19
[115] ibid s20
[116] ibid s21

reasons by someone with legal access does not violate the work's copyright.[117] This therefore means that where copyrighted works are used for TDM and the AI developer is lawfully accessing them, then it cannot be construed as copyright infringement. If the use is for commercial purposes, then the copyright owner should authorise it.[118]

3.2 Institutional Framework

3.2.1 Intellectual Property Office

The IPO in 2020 made consultations to the public where it consulted on matters concerning copyright protection for computer-generated works without human intervention and exceptions to copyright on TDM.[119] The response on the first issue was that majority of the public supported no change to the existing law. On the second issue, there were diverse opinions. Some suggested there be no change to the law as there was no evidence showing the need and that copyright holders should continue licensing use of their works for commercial research. The second option was to improve licensing schemes to have compulsory licensing for TDM or have a collective licence or to license according to the nature or size of the AI company to support the small AI developers. The final suggestion was to extend the exception provided for in the act to include both non-commercial and commercial research.

The government in its response to the consultations gave a report and stated that it would not make any changes to the law regarding copyright protection of computer-generated works.[120] This is because, there is no evidence showing that the protection infringes other individuals' rights. However, the law will still be under scrutiny to ensure that it adapts to any changes and will be amended if it fails to serve its purpose. On the issue of TDM in copyright, the government will introduce a new copyright exception that allows TDM for any purpose including commercial research as the outcome will benefit the wider public and speed up the development of AI.

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[117] ibid s29A (1)
[118] ibid s29A (2)(b)
[119] --'Artificial Intelligence and Intellectual Property : Call for Views' Intellectual Property Office <https://www.gov.uk/government/consultations/artificial-intelligence-and-intellectual-property-call-for-views > (14 August 2024)
[120] -- 'Government Response to Call For Views on Artificial Intelligence and Intellectual Property' Intellectual Property Office < https://www.gov.uk/government/consultations/artificial-intelligence-and-intellectual-property-call-for-views/government-response-to-call-for-views-on-artificial-intelligence-and-intellectual-property > (14 August 2024)

3.2.2 House of Lords

The upper house of the UK Parliament, the HL, published a report that focuses on the use of copyrighted works to train AI systems.[121] It proposes that AIs might greatly benefit the society but this does not excuse breaking copyright law. It suggests that it is will be wrong for tech firms to utilize copyright-holders works for profit without their consent or compensation.[122] The goals of copyright are to protect IP, compensate creators and encourage creativity and as such the government ought to ensure that copyright law offers the copyright-holders adequate protection.

It suggests that the legislation should be amended to ensure that AI developers collect data for AI training with the copyright holders' permission. This will lessen the possibility of big tech firms abusing their control in the market.[123] Further, licensing options should be offered to ensure developers access the works without infringing others copyright. It states that copyright holders are often unable to exploit their rights due to the inability to access the training data to see if their creations are being used without authorisation.[124] The IPO should, therefore, have a mechanism such as a searchable database where developers maintain records of works used and can be accessed by copyright-holders. This will eventually ensure that creators are not exploited for the use of their works.[125]

3.2.3 House of Commons

In 2023, the HC, the lower parliament in UK, through its culture, media and sport committee made a report on AI.[126] In this report it focused on TDM where it advised the government against pursuing proposals for a wider TDM exception. Rather, the government should examine how licensing schemes for small AI developers can be introduced and mutually beneficial agreements be entered with copyright holders and AI developers.[127] This would mainly assist small AI developers who might find difficulties in obtaining licences. The government should make it clear that the licences are needed in order to use copyrighted

[121] Communications and Digital Committee, *Large Language Models and Generative AI* (HL 2023-24, 54)
[122] ibid para 246
[123] ibid para 249
[124] ibid para 252
[125] ibid para 259
[126] Culture, Media and Sport Committee, *Connected Tech: AI and Creative Technology* (HC Paper 2022-23 11) 3
[127] ibid 15

works in training AI and support the objectives of copyright law. The government should take action to guarantee that artists receive just compensation under the copyright system.[128]

The government responded to the report and stated that it would not proceed with its initial plan to provide TDM a broad copyright exemption to include use in commercial research.[129] Instead, it would create a code of practice on copyright and AI allowing the creative and AI sectors to prosper together.[130] This will ensure that there is continued AI research and innovation while ensuring that the copyright system keeps encouraging and rewarding creativity.[131]

3.2.4 AI Office

The AI Office presented a command paper to the UK Parliament which provides how the government intends to develop and encourage the use of AI in various sectors.[132] Although the plan primarily focuses on the effect of AI economically and ethically, it also touches on IP issues, particularly AI generated works and TDM in training AI. The paper recognizes the value of IP in relation to the creation and application of AI and draws attention to the necessity of a framework that fosters creativity, upholds authors rights and promotes public confidence in AI technologies.[133]

The strategy places a strong emphasis on the necessity of continuing reviewing IP laws and ensure that they continue to be applicable and efficient in the AI era.[134] It calls for ongoing study and public input on matters concerning AI and proposes that the government to consult with stakeholders and experts.[135]

3.3 Legal Framework of U.S

The U.S legislation regarding AI is currently based on the existing framework rather than a specific act on AI.[136] U.S copyright law is codified in Title 17 of the USC and it includes the

[128] ibid 17
[129] Culture, Media and Sport Committee, *Connected Tech: AI and Creative Technology: Government's Response to the Committee's Eleventh Report of Session 2022-23* (HC 2023-24, 3) 4
[130] ibid 5
[131] ibid
[132] Department for Digital, Culture, Media & Sport, *National AI Strategy* (Cm 525, 2021) 7
[133] ibid 30
[134] ibid 48
[135] ibid 56
[136] n52

Copyright Act, 1976 which is the basic framework of copyright law among other legislations.[137]

3.3.1 Copyright Act of 1976

Authors of original works of authorship that have been fixed in tangible form, such as literary, musical, and artistic works, are granted exclusive rights under the Act.[138] The US Constitution itself gives Congress the authority to grant authors' exclusive rights for their works of literature and scientific discoveries in order to further the advancement of beneficial arts and technology.[139] This lays the groundwork for copyright law, which safeguards artistic expression while also guaranteeing that the general public may use the works.

The Supreme Court has opined that originality is the bedrock of copyright law and it has to be independently created and have an adequate level of creativity.[140] An independent creation refers to a work that was made by a creator without copying from others. It has to be original but that does not necessarily mean new. The work may closely resemble previous works but the similarity should be coincidental and not due to copying. In addition, copyright protects only the elements of a work that possess even a minimum threshold of creativity. Where there is no creative spark present in a work, then it cannot be copyright protected.[141]

With regards to original works of authorship, AI-generated works present a unique challenge to the traditional understanding of authorship since AI systems lack human attribution. The Copyright Act, clearly states that it grants copyright to authors.[142] The constitution, similarly, has taken the same stance where authors are granted exclusive rights.[143] However, the term author has not been explicitly defined in these legislations but this has been interpreted through judicial decisions. In determining the works eligible for copyright protection, courts have limited their application to works by human authors. For instance, in *Burrow Gilles Lithographic Co. v Sarony,*[144] court defined an author as the person who created the work, one who originated or completed a work. The court, therefore dismissed the claim that a photograph was a reproduction of the same features of an object or person created by an

[137] Title 17 United States Code, 2012
[138] Copyright Act, 1976 s102(a)
[139] United States Constitution, 1787 art 1(8)
[140] *Feist Publications Inc v Rural Telephone Service Co.* 499 US 340,345 (1991)
[141] ibid
[142] n138
[143] n139
[144] n27

automated system. It clarified that there would be no copyright protection if a photograph was merely a mechanical process with no originality or creativity by a photographer.

In the matter of *Thaler v Perlmutter*,[145] the plaintiff created a computer program, the Creativity Machine, with the ability to produce artwork. The AI system, independently, produced a unique work of art tilted 'A Recent Entrance to Paradise'. The plaintiff sought to register the work with the US Copyright Office where he identified himself as the author and that the work was produced as a commission for the owner of the AI system, who was him. The application was rejected by the defendant as the work lacked human authorship.

The plaintiff then filed a petition for the acknowledgment of an AI as an author and then copyright be granted to the owner of the AI. The issue arising was whether a work generated by an AI system without any human assistance is eligible for copyright. The petition failed for the same reason that copyright cannot be granted to works of non-human authors.

The plaintiff filed a judicial review contending that denial of copyright registration was capricious and unlawful. The issue of content was whether copyright can be granted to works generated by an AI system. Court held that the work had been produced by a machine without any human intervention and therefore, it was not eligible for copyright protection. On the work-for-hire doctrine, it was contended that there was no legitimate copyright and in the absence of a valid copyright, the doctrine was irrelevant.

Similarly, in *Urantia Foundation v Maaherra*,[146] the parties claimed that the book in contention was authored by celestial divine beings. They believed that the teachings were delivered through the use of a medium then humans assembled then in the book. The respondent, an avid reader of the book, made a study aid including the entire writings of the book and distributed them for free on computer disks. The applicant filed the suit for copyright infringement. The issue in contention was whether the work was copyrightable at all as it contained words of celestial beings rather than human beings. Court held that there lacked human creativity in the book that contained words revealed by non-human spiritual beings and therefore could not be copyright protected as copyright laws were intended to protect human creativity.

[145] [2023] 22-CV-384-1564-BAH
[146] 114 F.3d (9th Cir.1997)

While not directly related to AI, the case of *Naruto v Slater*,[147] is often cited in discussions about non-human authorship. According to the Ninth Circuit of Court of Appeals, non-humans, including animals are not permitted to hold copyright since the Copyright Act does not allow animals to bring copyright infringement cases and the goal of copyright law is to protect human creativity. This case underscores the idea that copyright protection in US is exclusive to human authors, even though it concerned an animal rather than an AI.

The copyright act provides for the exclusive rights granted to creators and this includes reproduction, distribution, displaying the work to the public, publicly performing the work and making derivative works from the copyrighted work[148]. However, there are circumstances in which one can use the copyrighted material work without permission from the author and this is considered as fair use.[149] This includes for criticism purposes, research or use in libraries and archives.[150]

When determining whether using a copyrighted work constitutes fair use, a number of variables are taken into account. [151] The four elements taken into account in the analysis are: the nature of the copyrighted work, the amount and importance of the portion used in relation to the copyrighted work overall, the impact of the use on the copyrighted work's potential market or its value, and the intent and character of the use, including whether it is for profit-making or nonprofit educational purposes. A challenge arises on whether training AI models with copyrighted work considered fair use under U.S. copyright law.

Courts have tried to deal with issue through various cases. The landmark case of *Authors Guild v Google Inc.*,[152] the defendant worked with a several well-known research libraries to digitize their historical materials for the Google Books programme. The Authors Guild Inc. and individual copyright owners who filed the suit, claimed that Google had scanned over twenty-million books without authorisation or licensing fees payment. Google provides its library partners with digital copies. In addition, it generated an electronic index, stored copies on its servers and on backup tapes and included excerpts of the books in search engine results. Plaintiffs alleged that Google violated copyright by using their books without authorisation. The US District Court for New York awarded summary judgement in favour of

[147] n25
[148] n138 s106
[149] ibid s107
[150] ibid s108
[151] n119
[152] n63

Google, ruling that Google's digitization and subsequent use of the copyrighted works was fair use. The Authors Guild appealed the district court's ruling.

The issue for determination was whether it was fair use to digitally reproduce books from library collections for the benefit of library collections and the general public to search electronically utilising a search engine without consent or payment. The Second Circuit agreed with the district court's ruling that Google's digitization and subsequent use of the copyrighted works constituted fair use.

The circuit court determined that the defendants' creation of a digital copy to offer a search function was fair use since it added to public knowledge by making information about appellants' books available without providing the public a substantial substitute. Additionally, the court likewise held that Google did not violate copyright by providing digital copies to participating libraries. The possibility that the libraries might permit the use of their copies in an infringing manner did not make Google a contributory infringer.

Because Google restricted the amount of text it showed to users in search engine results, the circuit court determined that Google's copying of full texts to allow the Google Books search function did not dispose of the fair use determination with regard to the amount and substantiality of the works used. The circuit court determined that although the insertion of the snippets in the search results would have an effect on the appellants' books' market share, it was improbable that it would replace the purchase of the author's book.

According to this ruling, the fair use doctrine may also protect transformative uses of copyrighted content, such as utilising the works to train AI models that produce new, non-competing creations.

Similarly, in the matter of *Hathi Trust*, [153] several colleges that worked with Google Inc. on the Google Books initiative, which digitised library collections, were among the defendants. Hathi Trust, which was composed of various universities and colleges, maintained a digital library with digital copies of works published over several centuries. The digital copies were used to build a public database for full-text searching, to enable library users with print disabilities to access full texts of works, and to enable libraries to replace their original copies that were stolen, lost, or destroyed when a replacement could not be found elsewhere for a reasonable price. Plaintiffs—individual writers and groups of writers—filed an appeal against

[153] *Authors Guild v Hathi Trust* 755 F.3d 87 (2d Cir. 2014)

the district court's decision to grant defendants the right to use the fair use defence. The issue for determination was whether the fair use doctrine could be invoked in the use of the plaintiffs' copyrighted material by the defendant.

The court ruled that it was fair use to create a database that could be searched in full text. Because the outcome of a word search differs from the text from which it is derived in terms of purpose, character, expression, meaning, and message, it was determined that the use was transformative. The court further decided that the copies were deemed reasonably required to reduce the risk of data loss and to enable the defendant to provide its services to the general public. Furthermore, it concluded that there was no risk to the current or future market for the protected works from the full-text search.

The court also decided that reasonable access was granted to those who were print-disabled. It came to the conclusion that granting such access served a legitimate purpose and that the defendants had a right to keep both text and image copies because text copies were needed for text search functions and text-to-speech capabilities and because image copies offered a different way for many persons with disabilities to access the works. Since it created the books, it was fair use. Lastly, considering the small size of the current market for publications that are accessible to the disabled, the court upheld fair use.

3.4 Institutional Framework

3.4.1 US Copyright Office

It is established vide the Copyright Act and is mandated with the function of registering copyrights, advising the Congress on copyright matters, conducting studies on issues relating to copyright among others.[154] The Act stipulates basic standards but the Register of Copyright may find that further data is required in order for the Office to assess the existence of the copyright.[155] The office observes new patterns in registration that may necessitate changing or adding to the information necessary to be submitted on an application. The application of AI technologies is one such recent breakthrough.

The USCO has consistently held that copyright protection is available only for works created by human authors.[156] The Copyright office in 2023 reinforced the human authorship

[154] n138 s701 (a)(b)
[155] ibid s409
[156] n113

requirement vide a letter where it issued a limited copyright registration of a literary work.[157] In this work, the author, Kashtanova, had used an AI system, Midjourney to create images used in the novel. The author claimed that in order to develop the artistic works, it underwent alterations to the images and photos that Midjourney had generated to come up with the final product. The office, however, opined that the photos created by Midjourney lacked human authorship in the creative process, even taking into account the author's effort in creating the images.[158] Copyright was therefore granted to the literary texts of the novel and not the images and visual elements as they were created by an AI and therefore lacked human authorship.

In September 2021, Allen submitted an application to register a copyright for Theatre D' opera Spatial, an award-winning artwork.[159] He did not mention that the work was produced by an AI system; Midjourney but the Copyright Office was aware as the image had garnered nationwide attention as the first AI generated art piece to win a competition. An examiner from the copyright office requested further details regarding Midjourney's involvement in creating it.[160] Allen, in response, said to have made numerous corrections to arrive at the initial version of the artwork through Midjourney before photoshopping it to remove any imperfections and increase the visual elements of the art. The copyright office requested him to remove the features of the work that the AI had created for copyright registration. The applicant declined asserting that he had claim to the copyright in the work produced by the AI system. The copyright office denied his application. The office concluded by stating that the artwork's lack of copyrightability stemmed from the fact that it contained more than a small portion of AI generated content.[161]

[157] RJ Kasunic 'Zarya of the Dawn Registration' (US Copyright Office, 21 Feb 2023) <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf > (14 August 2024)
[158] ibid
[159] S Kuta 'Art Made with Artificial Intelligence Wins at State Fair' *Smithsonian Magazine* (Washington DC 6 September 2022)
[160] B Brittain 'US Copyright Office Denies Protection For Another AI Created Image' <https://www.reuters.com/legal/litigation/us-copyright-office-denies-protection-another-ai-created-image-2023-09-06/ > (14 August 2024)
[161] S Wilson 'Second Request for Reconsideration for Refusal to Register Theatre D' opera Spatial' (Copyright Review Board, 5 September 2023) < https://ipwatchdog.com/wp-content/uploads/2023/09/AI-COPYRIGHT-REGISTRATION-decision.pdf > (14 August 2024)

The USCO's Review Board affirmed in a letter in December 2023 that it would not register a work produced with AI software.[162] The piece in question was a computer-generated artwork; SURYAST, which was made up of an original photograph shot by the creator and Van Gogh's work -The Starry Night- blended into it. The creator submitted an application for registration of the work and identified himself and the AI as the authors. Specifically, he listed himself as the photographer of the work and the AI software as the author of the artwork. The Copyright Office noted the inability to distinguish human authorship from the end product produced by the computer program. The work was therefore denied copyright registration. The applicant asked for a review of the decision as he claimed that a work need not be entirely created by a human author in order to satisfy the human authorship criteria. The reconsideration was rejected and maintained the original decision as the AI's interpretation of the photograph and Van Gogh's work was as a result of the images it was trained on and not the specific instructions received from the applicant.[163] The artwork therefore lacked the human authorship requirement.

The USCO has been cautious in addressing the copyright implications of AI-generated works and the use of copyrighted material for training AI. As noted earlier, the Office's stance has been to deny copyright protection to works lacking human authorship. However, the rapid advancement of AI technology has prompted the Office to engage in ongoing discussions and studies on the matter.

In March 2023, there was provision of a policy by the Copyright Office on registration of works created by AI.[164] In an application for copyright registration of the works, the Office will consider whether the work was produced through an autonomous machine or if the AI was an assisting tool. There have to be an element of human authorship for registration of the AI generated works.[165]

If a works lacks human authorship, it will not be registered by the Office. Where a work that includes AI generated content has enough human authorship to support a copyright claim, the work with human contributions will be registered by the office. In such circumstances, the

[162] J Perry 'US Copyright Office Refuses Registration for AI Generated Works for the Fourth Time' <https://www.josephperrylaw.com/post/us-copyright-office-refuses-registration-for-ai-generated-works-for-fourth-time >
[163] ibid
[164] S Perlmutter 'AI Policy Guidance' < https://www.copyright.gov/ai/ai_policy_guidance.pdf > (14 August 2024)
[165] ibid

applicant is required to disclose the work that the AI generated and it should be of a minimum significance.[166] Applicants can declare and exclude such materials by including a brief description of the work that has been generated by AI in the registration application. In doing this, the applicants are not required to list the AI systems utilized in the creation of the work.[167]

3.4.2 Compendium of US Copyright Office Practices

This is a manual established by the US Copyright Act that guides copyright registration decisions. The USCO uses this manual to review the applications and make sure they comply with applicable laws and regulations before a decision is made on whether to approve or reject registration.[168]

The US Copyright Act stipulates that a work must be original and fixed in a physical medium in order to be granted copyright protection.[169] In addition, the work should also have a subject matter that is copyright protected [170] and satisfy all other legal and formal requirements.[171] The office examines factors including; if the work is eligible for copyright protection, if the work is fixed in material form, whether the work was created by a human author, if the work is of a subject matter that can be copyright protected, if the work is original, if the work was produced independently and whether there was at least a minimal amount of creativity to determine whether the work is copyrightable.[172]

There is a requirement for human authorship for the original work fixed in a tangible form to be registered by USCO.[173] Copyright law protects original intellectual conceptions of the author hence if the work was not created by a human, it cannot be registered. The act provides examples of works that cannot be registered if they are produced by animals, divine beings, plants and a mechanical process without human intervention.[174]

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[166] ibid
[167] United States Copyright Office *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence* (2023)
[168] Compendium of US Copyright Office Practices, 2021 s410 (a)
[169] n58
[170] *Star Athletica LLC v Varsity Brands Inc.* 137 Sct 1002, 1005 (2017)
[171] n168 s410 (b)
[172] n167
[173] n168 s306
[174] ibid s313 (2)

It explicitly states copyright protection is not applicable to works created by machines or simple mechanical processes that function arbitrarily or automatically without any creative input or involvement from human authors.[175]

3.5 Legal Framework of Kenya

In Kenya, the difficulties arising from the intersection of AI and copyright law have not really been addressed. Compared to US and UK, where there are ongoing consultations and growing jurisprudence from the cases, Kenya is still grappling with the situation but at a slow pace.

3.5.1 Copyright Act, 2001

The Copyright Act of US and the CDPA of the UK are equivalent to the Copyright Act of Kenya providing for the rights of authors consistent with the COK provision of promotion and protection of IP rights of Kenyan people.[176]

The Copyright Act of 2001 is the main piece of legislation controlling copyright in Kenya. The Act safeguards original literary, musical, dramatic, audio-visual and artistic works that have been reduced to material form.[177] The idea that an AI can own copyright is refuted by the Act's definition of an author as a person on multiple occasions.[178] A person, as already seen, is customarily referred to as a natural person or a corporation; which is a legal person.[179]

Computer generated works are recognized under the Kenyan Copyright Law, similar to UKs law where the author of the works is defined as the person who made the arrangements for creation of the work.[180] The author of the works is therefore regarded as a human creator who is entitled to copyright.

Per the Copyright Act, 2001, there is need for human authorship for a work to be copyright protected, just like in the previous jurisdictions discussed. This implies that AI generated

[175] ibid
[176] n5
[177] n7
[178] n20
[179] n23
[180] n20

works that do not have direct human authorship may not be eligible for copyright protection under the current law.

AI training using copyrighted works has not been expressly addressed in this Act. However, the fair dealing doctrine is applicable in Kenya, though not specifically in relation to AI. This provides exceptions for the use of works without authorization from the copyright owner and it includes use of the works for private use or scientific research.[181] If the use of the works is not provided for in the exceptions, then the AI developer needs to obtain a licence from the copyright owner.[182]

3.6 Institutional Framework

3.6.1 Kenya Copyright Board

KECOBO is established by the Copyright Act, 2001 to manage and uphold copyright issues, to suggest measure to guarantee continuous efficacy of copyright laws and educate and notify the public on issues concerning copyright.[183]

The board made a publication; Copyright in the Age of AI, which discussed largely on ownership of AI-generated works.[184] In the publication, different legal counsels gave their opinions regarding the implications of ownership of AI generated content. Kaindo acknowledges that autonomous AI have disrupted the traditional copyright law which protects creations of the human mind. A question arises on who is regarded as the person who made the necessary arrangements for creation of the work as provided by the Copyright Act. There are no specifications on whether that person is the AI developer or the user. It seems like an importation of UK's CDPA without providing any clarifications. He, however, deciphers that the person referred to is the user of AI. This is because a computer programmer is the one who is in control over the making of its program. The programmer, therefore, has copyright over the source. The user on the other hand, may create a work through a click of a button through instructions to the AI system and therefore was in control over its operations attraction copyright protection of the work. Kaindo, in concluding,

[181] n7 s26(3)
[182] n7 s33(1)
[183] n7 s5
[184] n17

suggests that works should not be placed in the public domain as this would discourage creativity against the spirit of copyright law.[185]

Omondi, another legal counsel states in the publication that many stakeholders are involved in making of an AI. [186] These include the AI developer, the trainer of the AI and the user. There is difficulty in identifying the sole author of the final generated works. In arguing that the AI developer should be granted ownership, she says they have copyright over the AI software and it cannot be used alone hence cannot be regarded as the author. There is input of algorithm to the AI system to meet the desired output and as a result, the final product may differ from what the developer had anticipated. Since the trainer of AI does not own the training data, they are just licensed to use it, they cannot also be granted copyright over the resulting works. Lastly, if the user is the person who sets the AI to produce the work, the user's personality does not reflect in the final product hence lacking originality. Omondi suggests that all the individuals in the chain need to be rewarded in one way or another to encourage them to produce more. In addition, the AI generated works should be protected for a duration of about five to seven years to allow stakeholders to recover their investments before entering the public domain to be available for usage by everyone.[187]

Jaketch says in the publication of KECOBO that if the AI system is sold, then the legitimate buyer ought to be entitled to the copyright of the works produced by the AI.[188] The test needs to be presumptive, meaning that anyone who lawfully purchases an AI system is to be presumed to possess the abilities required to operate the machine and produce works, even by a mere input. On training of AI using copyrighted works, there is a potential to violate other creators' copyright. The person who owns the copyright to the AI generated work, based on the aforementioned, would be held accountable for the infringement.[189]

3.7 Observation

UK's and Kenya's approach acknowledge that AI-generated content is copyright protected. Authorship rights, however, are granted to the person who gives instructions to the AI system rather than the AI itself. The current framework therefore prioritises human participation in

[185] n26
[186] n17
[187] ibid
[188] W Jaketch 'Ownership Issues in Copyright Works in the Age of Artificial Intelligence' [2021] Copyright News 6
[189] ibid

the process of creating AI works. In contrast, the US system does not recognize the fact that works generated by AI systems can be copyright protected. The USCO together with the courts have been adamant that there has to a human author involved in the creative process.

In addition, because of its application of copyright law exclusions, the UK permits greater latitude in the use of copyrighted works for AI training as one can use copyrighted content for non-commercial research without need for consent. However, commercial AI systems require the copyright holders' permission. In the US, the fair use doctrine is invoked in using copyrighted works to train AI. The application of the doctrine is examined on a case- to- case basis considering the four factors. From the decided cases, it is clear that in US, the work produced has to be transformative.

Despite the distinctions, both jurisdictions acknowledge the need to strike a balance between advancing the innovation of AI and safeguard the goals of copyright. Furthermore, the issues have not been completely addresses as the subject is still ongoing further discussions and consultations.

3.8 Conclusion

From the study, it is clear that both jurisdictions have different but complementary approaches on the intersection of copyright law and AI. While US places more emphasis on human authorship, the UK allows a more flexibility in recognising the human instructor of AI as the author. Comparably, the US's reliance on the fair use doctrine and the UK's TDM exception show divergent views on how to strike a compromise between copyright protection and encouraging AI innovation. The jurisdictions' copyright laws will probably need modification as AI develops in order to address the issues which could result in more convergence or divergence.

CHAPTER FOUR: FINDINGS

4.0 Introduction

The objective of this research was to examine the concept of authorship in AI generated works and the legal implications of training AI using copyrighted works. The questions posed were whether using copyrighted works to train AI is copyright infringement and who ought to be considered as the owner of the AI generated works; the AI, the AI programmer or the user of AI. This chapter will discuss the findings of the study based on the objectives and questions set.

4.1 Ownership of AI generated works

The authorship notion in AI generated works is intricate. The foundation of copyright law is the idea that an original work is created by a human author and hence eligible for copyright protection.[190] AI generated content, on the other hand, challenges this premise because AI systems are capable of creating material with little to no human involvement.

The research illustrates that most legal systems, particularly UK and US, do not yet acknowledge AI as an author. The fact that AI generated works do not fit into pre-existing copyright laws has resulted in a substantial legal gap. Although the UK law recognizes AI generated content and gives authorship to the person who made the required arrangements for the work to be created,[191] it still does not address the problem, especially where AI systems are autonomous. In contrast, AI generated works are not recognised in the US as human authorship is strictly required for copyright protection.[192] This has sparked discussions on whether to amend current laws to take into account the special circumstances surrounding AI generated works.[193]

Courts and copyright offices assess the level of human intervention in the creative process. Where a person contributes a significant creative input, such as choosing parameters, directing the AI's operations or moderate the final product, the copyright protection of the final product is greater. But when AI performs tasks with a high degree of autonomy, it becomes unclear if the result is truly the product of human creativity

[190] n17
[191] n75
[192] n125
[193] n13

4.1.1 AI as an author

The current legal framework in most jurisdictions do not recognize AI as capable of holding copyright for various reasons. As earlier stated, copyright laws were developed to safeguard human intellectual creations and incentivise creators.[194] Legal opinions as well as the history of copyright law demonstrate that the purpose of the legal system is to safeguard human ideas rather than machines. For works to be copyright protected, they have to be original and in a fixed form.[195] Originality is mainly associated with human authorship and in the US, for instance, a human author has to be acknowledged for a work to be copyright protected.[196] Machines need not to be rewarded in order to encourage them to create and as hence this is not in line with the goal of copyright law to provide incentives to authors.

Moral rights are non-economic rights that an author hold protecting his reputation and cannot be transferred.[197] The rights include the right to attribution[198]and the right to object to any distortion or modification of the work.[199] An AI cannot hold moral rights as it lacks identity and consciousness. Besides, lack of moral rights, AIs lack the legal capacity to hold property in the traditional sense. An author is normally defined as a person.[200]A person commonly denotes a natural or a legal person where legal personality covers corporations or companies.[201] AI systems are not encompassed in this definition hence cannot be regarded as copyright holders.

A dilemma arises in determining who bears the blame for mishaps resulting from the use of autonomous AI.[202] Authors may be held accountable where their works infringe other people's rights but since AIs lack legal identity, it may be difficult to hold them responsible. This will in turn lead to lack of a legal recourse to the affected persons. Attributing authorship to AIs may lead to the decline of creative works made by persons as they can create works at a faster pace. As a result, it may seem that AI is robbing people off their jobs and therefore due to the ethical reasons, AI cannot be regarded as an author.[203]

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[194] n6
[195] n16
[196] n125
[197] n8
[198] ibid s32(1)(a)
[199] ibid
[200] n22
[201] n24
[202] n13
[203] n59

4.1.2 Attributing ownership to the programmer

The rationale for attributing ownership to the programmer is due to a number of reasons. Firstly, copyright can only be granted to a natural person or a legal entity.[204] A programmer can hold property and therefore can be regarded as the copyright holder of AI generated works. Programmers are creators of AIs as they input the algorithms, set parameters which consequently produce the final works. The human input is seen as the creative contribution that warrants giving the programmer ownership of the final works.[205] The copyrightable work produced by AI would not have been possible without the programmer's input.

Moreover, by rewarding the programmer, it will motivate them to further harness the AIs creative potential. If programmers obtain copyright over the works of the AI systems, they will be more inclined to invest in creating advanced AI systems.[206] The continuous development of AI depends on these incentives. This approach is also seen as the most practicable one as there is a clear identifiable owner of the AI works. Issues surrounding enforcement of rights and accountability are less complicated and hence reliable copyright systems are maintained.[207]

Where the programmer is commissioned to create the AI, then the company that employed him owns the copyright to the works in line with the work for hire doctrine.[208] This perspective, however, has some drawbacks. Even if the programmer wrote the AIs software, the AI has capacity to self-learn hence generating new creative works.[209] This is also seen as over-rewarding the programmer since he will have copyright over every single work that the AI generates.[210]

4.1.3 Attributing ownership to the user

AI generated works are frequently perceived as being dictated by the user. The user usually inputs the prompt that provide the parameters under which the AI produces a final result.[211] The idea is that the user uses the AI as a tool to express their creativity. In addition, the user

[204] n24
[205] n57
[206] ibid
[207] Ibid
[208] n59
[209] n55
[210] n57
[211] n58

makes important choices such as choosing the final output from a variety of options that the AI generates.[212] This degree of authority is comparable to the role of an author overseeing the creation of the work.

By attributing authorship to the user, there is a recognizable human author and therefore, if the generated work infringes rights, the user will be held accountable and responsible.[213] The user can profit from the AI generated material by licensing, distributing through sale and hire or transferring rights hence achieving the goal of copyright law; to reward the creator.[214]

However, this approach has a few setbacks. The user uses the AI as a tool and therefore the AI itself is producing the content using the user's input. There is no substantial skill or labour put into the work. [215] This is likened to a photographer using his camera to take photos where the camera is just a tool and the angle of photography and edits make up the photographer's creativity hence copyright protection granted to him.[216]

4.1.4 Public Domain

This study finds out that some researchers and authors have suggested that the works should be placed in the public domain.[217] This essentially means that the works should not be copyright protected and are available to the public without the need to seek permission. The AI generated works will not be attributed to any author and hence there are no exclusive rights.

This is however criticized as the AI developers will not be rewarded and therefore demotivating them to continue inventing.[218]

4.2 Training of AI using copyrighted material

This research also explores the legal ramifications of using copyrighted material to train AI models. Large volumes of data, that may contain copyright protected works, are needed for AI systems to learn and produce content.[219] There is ambiguity and uncertainty surrounding

[212] ibid
[213] n14
[214] n16
[215] n168
[216] K Hristov 'Artificial Intelligence and the Copyright Dilemma' (2017) 57 IDEA 44
[217] n57
[218] n58
[219] n37

the use of copyright protected works for AI training as the current copyright laws were not enacted with AI in mind.

This dissertation discovers that several jurisdictions have different stances on this matter. AI training is made easier by the UK's TDM exception which permits the use of copyright protected content for non-commercial research purposes.[220] This exception, however, is only limited to non-commercial usage. Licences need to be obtained from copyright holders to use their works for commercial use in training of AI.[221] This resonates with Gervais who states thar there should be a uniform licence entered into between the creators and AI developers as there may be cross-border use of the copyrighted works.

In US, the fair use doctrine is used to support the use of copyrighted material in AI training. However, this idea is interpreted on a case- to- case basis taking into account elements such as nature of the use, effect of the use on the market, substantiality of the use and the purpose of the use.[222] The courts' stance is that there has to be transformative use of the copyrighted works. The resultant work has to serve a different purpose from the copyrighted work used to avoid infringing others' copyright.[223]

[220] n87
[221] ibid
[222] n119
[223] n123

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter seeks to make conclusions from the research and give recommendations for the best way forward in ensuring the best practices when it comes to the intersection between AI and copyright law, particularly ownership of the AI generated works and AI training using copyrighted material.

5.1 Summary

An AI system cannot be regarded as an author of the generated works as there is need for legal personality to hold copyright.[224] Training AI using pre-existing copyrighted works can be regarded as fair use as long as it is transformative under US law[225] whereas in UK, it is fair dealing if it is for non-commercial research purposes.[226] If the use is for commercial purposes, then there is need to obtain licenses from the owner of copyright.[227] There are no provisions relating to AI training in Kenya, however, the current laws still apply where licensing is needed to use copyright protected works unless the use falls under the exceptions in the fair dealing doctrine.[228]

5.2 Conclusion of the study

In relation to AI generated works and the use of copyrighted works to train AI, the study has examined the complex and dynamic field of copyright law. The research reveals that a challenge arises in identifying the owner of the AI output and who ought to be rewarded.[229] The current copyright law present ambiguity and uncertainty as it was aimed to safeguard human creativity and foster it through the incentives. Autonomous AI has challenged this as it has the potential to analyse and generate content with little to no human involvement.

The research emphasizes how crucial it is to establish new legal classifications and criteria that can distinguish between different levels of human involvement in AI generated works. These changes would provide more clarity regarding protection of the generated works. Evidently, several countries are on the move to find solutions to these challenges. However,

[224] n125
[225] n63
[226] n117
[227] ibid
[228] n181
[229] n6

there are different standpoints regarding ownership of the generated content and training the systems using copyrighted material.

Training of AI using copyrighted works raises another challenge as AI analyses and alters the works making it difficult to distinguish between fair use and infringement. This disparity challenges the prospect of innovation through AI as well as posing a risk to creators and AI developers. There is a necessity of striking a balance between protecting IP rights and fostering technological progress. Effective AI training requires having access to large datasets, including works protected by copyright.[230] However, use of these works without permission runs the danger of infringing creators' rights and may even hinder artistic creativity.

This dissertation comes to the conclusion that copyright law needs to be approached more nuancedly in order to take into account the legitimate interests of both right holders and AI developers. To achieve this balance, possible avenues should be explored.

5.3 Recommendations

5.3.1 Legal Reform

Legislative bodies ought to contemplate amending the current copyright law to clearly clarify and broaden the current exemptions for TDM to encompass commercial training of AI, while guaranteeing just compensation to the creators. To lessen confusion for AI developers and creators, there should be precise guidelines and instructions on how to relate the doctrine of fair use to AI training.

There should also be established new categories that are dedicated to the consideration of AI generated works due to their distinctive categories. Provisions that acknowledge different levels of human input in the content and provide appropriate levels of protection could fall under this category. There should be taken into consideration a system in which the AI and the human creator who developed the AI are acknowledged as the owners of the content that is produced. This will recognize the role that humans and machines have played.

[230] n37

5.3.2 International co-operation

To encourage global collaboration, efforts should be made to harmonise copyright law on a global scale for a more uniform and predictable legal environment This could be accomplished by international treaties that clearly define the guidelines for protecting AI generated works and using copyrighted works in AI training. WIPO should endeavour to create guidelines to lessen discrepancies across various jurisdictions.

5.3.3 Engagement with stakeholders

A balanced approach between the innovation of AI and the protection of copyright necessitates government agencies to work together with AI developers, creators and the general public to identify the best practices for handling the challenges arising. This should be done through public participation and consultations to ensure that different views are taken and considered. that different stakeholders bear responsibility for putting the suggested initiatives into practice.

5.3.4 Licensing Models

There should be CMOs which create standardised and consistent licensing arrangements to make it easier to use copyrighted content to train AIs. The AI developers will be able to use the copyright protected works with reasonable renumeration while the copyright owners benefit from the use of their works for AI training.

5.3.5 Further research

The study recommends that there should be encouragement to provide support for the study and research of the intersection between AI and copyright law. This is because more research and studies are on AI and the right to privacy overlooking the fact that there are issues in the copyright realm. If more research is done, then it would assist in coming up with solutions to the problem brought with the intersection of AI and copyright law.

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