ARTIFICIAL INTELLIGENCE AND COPYRIGHT LAWS IN MAINLAND TANZANIA: GAPS, CHALLENGES AND PROSPECTS

Deogratias I. Gasto, LL.B. (Hons) (RUCO), LL.M (UDSM), PhD (UDOM)

Albert Mhina, B.A, LL.B. (Hons), JSS Law College; LL.M (India); Assistant Lecturer, Faculty of Law, Catholic University of Mbeya.

ABSTRACT

This Article examines the convergence of Artificial intelligence and copyright laws in Mainland Tanzania. It delves into the gaps, challenges and prospects within the current copyright laws of Mainland Tanzania in relation to AI generated works and innovations. The Tanzania copyright Act[1] provides clear statutory guidelines for the protection of literary, artistic, dramatic and computer programs. Though, the Copyright law of Mainland Tanzania provides copyright protection but still, it lacks specific provisions concerning innovation and creativity on authorship, ownership, automated content creation and market saturation, enforcement of copyright, originality, authenticity and fair use of the intellectual materials. The absence of such regulations in Mainland Tanzania leaves a significant gap in addressing the issues of authorship, ownership, originality, enforcement, authenticity and fair use. The article uses doctrinal and comparative methods but also, legislative and critical legal approach has been used to explore the challenges posed by the Artificial intelligence on the copyright laws. It identifies the key areas in which the Copyright law needs legal enhancements, drawing lessons from United Kingdom, United States and China. In order to effectively handle the changing copyright landscape, the study advocates for necessary legislative changes and policy interventions. It also, suggests strategies Tanzania Mainland might use to strike a balance between rearing innovation and protecting the rights of the creators. The results highlight how crucial it is to create AI-tailored copyright regulations and promote regional and global collaboration in order to successfully address these issues in Tanzania Mainland's expanding digital economy.

Keywords: Artificial Intelligence (AI), Copyright, Intellectual Property Rights, digital ecosystem.

[1] The Copyright Act , 1999 (Act NO. 7 of 1999)

1.0 Introduction

The introduction and the fast growth of the artificial intelligence (AI) has affected the conventional understanding of the authorship, ownership, originality, enforcement, authenticity and fair in the copyright and related rights across the world. The increase in the use of artificial intelligence-generated content, ranging from artistic to dramatic, and computer programs has caused legal uncertainties in determining the eligibility of the output of the works. The Copyright and Neighbouring Act[2] advance a legal framework in protection of the original works of the authors nevertheless it lacks the provisions regarding the status of the works created by the artificial intelligence.

The growth of artificial intelligence is highly influenced by innovation and technological growth. Artificial Intelligence ("AI") involves a set of techniques or instructions aimed at stimulating some aspects of biological cognition using machines.[3] The AI is based on the technique called machine learning. Machine learning uses a computer algorithm that can learn and improve performance on a specific task.[4] Furthermore, Artificial Intelligence (AI) was defined as to the application of machines to enhance human qualities. The genesis of the term "artificial intelligence" was used for the first time during the Dartmouth Conference in 1956.[5] The development of AI as a new technology has a direct connection with the IP rights. The new AI technology expose the Intellectual property in the areas of creative arts, entertainment industries as well as enhancing inventions. The development of the IA poses social, economic and legal implications for IP protection.

The copyright laws, which are the subset of intellectual property rights, focus on upholding and advancing the ethical and financial rights of the original creator of any work that is protected by copyright.[6] Thus, the authors of original works are granted with exclusive ownership rights under copyright laws.[7] According to the World Intellectual Property Organization (WIPO), intellectual property rights are "the legal rights that result from the

[2] (Act No. 7 of of 1999),Chapter 218 of Laws of Tanzania
[3] Ryan Calo, Artificial Intelligence Policy: A Primer and Roadmap, 51 U.C.D. L. REV. 399, 404 (2017).
[4] Harry Surden, Machine Learning and the Law, 89 WASH. L. REV. 87, 89–95 (2014). Machine learning programmers have based their algorithms off models of the human brain and call these models "neural networks." Id. A neural network computer program will run through the assigned task and use feedback loops to improve its performance. Id. To create a neural network, programmers will "train" the AI by creating a framework of different algorithms that work together to process data inputs. Id. The AI's learning starts off very slowly but grows at an exponential rate as it attempts to perform its assigned task over thousands of iterations.
[5] Cordeschi, R. (2006). AI's half century. On the thresholds of the Dartmouth conference. IA Retrospettiva, 3, 1
[6] Copyright and Neighboring Act, revised edition 2002, S. 9 and 11
[7] Ibid, S.15

intellectual activity in the industrial, scientific, and artistic field"[8]. Moreover, the Intellectual Property Rights also mean "the legal rights given to the inventor or creator to protect his invention or creation for the specific period of time[9]". However, Copyright which is a subset of IPR means a legal framework that grants creators exclusive rights over their original works of authorship, such as literature, music, art, software, and more. Further, the term copyright is defined as a sole legal right to print, publish, perform film or record literally or artistic musical works.[10] In order to strengthen the growth of technology, creativity and innovation the two main areas of intellectual property rights have been recognized in Tanzania which are copyright and related rights and industrial properties.[11]

Under the Tanzanian law, Section 3 of the Copyright and Neighbouring Act defines author to mean the '*natural person who has created the work'* while section 5 promotes the protection of the original work which implies the requirement for protection is originality of work which is created only by humans. Furthermore, section 9 provides ownership of the copyright that the author shall be the first owner of the economic and moral rights in their work.

Despite this legal significance, the Copyright and Neighbouring Rights Act provides inadequate provisions for recognition of works created by artificial intelligence. It lacks clarity on the definition of authorship in relation to artificial intelligence, the ownership of the works generated by AI system under human direction, the act does not define what originality entails, lack of tools to monitor copyright infringement and the act lacks clear procedure for verifying the authenticity of authorship in cases of AI generated works.

This article seeks to examine the convergence between the AI and the existing copyright in Mainland Tanzania. It focused on identifying the legal gaps, and delve into the prospects for legislative and policy reform. The study draws on the doctrinal approach supported by the comparative viewpoint from other jurisdiction.

Of the existing copyright laws coverage of the works generated by AI and how far the Tanzanian laws recognise non-human authorship. The descriptive methodology have been used in order to provide clear exposition of Tanzania copyright law and describe the exposition of

[8] WIPO, "The Concept of Intellectual Property" in WIPO Intellectual Property Handbook: Policy, Law and Use, paragraph 1.1, 2001.
[9] Singh R., Law relating to intellectual property (A complete comprehensive material on intellectual property covering acts, rules, conventions, treaties, agreements, case-Law and much more) Vol. 1. Universal Law Publishing Co. Pvt. Ltd; New Delhi, 2004
[10] Copyright and Neighboring Act, revised edition 2002, S. 4
[11] Mwaipopo. A.R., (2008) Intellectual Property Rights and Regulation of Access and Benefit Sharing of Genetic Resources in Mainland Tanzania, University of Dar es Salaam (PhD thesis) at p. 61

AI and its impact. This article offers conclusion with recommendations for legislative and and policy reforms to ensure equitable justice.

2.0 Historical background of the problem

The genesis of copyright protection can be traced from England way back from 567 AD. However, during these early years, there was no law which used to protect the rights of the original authors. During the 15th century, England slowly started to recognise the existence of the printing press. Though there was recognition of the printing, there was no law which directly protected the rights of the authors by the Monarchy. During the 16th century, England became the first printing centre in Europe[12]. The British government began to regulate printing, requiring registration for everyone wishing to print. It introduced the new requirement to printers for printing, which required anyone who wanted to print to register with a certain company, this was popularly known as the Stationers Company, which was in place in 1529. The class of merchants who printed and marketed authors' works were known as stationers. The Stationers coveted to be the exclusive owners of the writers' works. With the capability to grant members of the firm exclusive ownership of their works, the Stationers advanced the idea of copyright.

During the 15th and 16th centuries, there were some elements of sheltering the rights of the authors, but there was no piece of law introduced in order to protect the rights of the authors till 1710. The first copyright statute which recognised the rights of original authors was enacted in England, and it was called the Statute of Anne. The Act is recognized as the first Copyright law. The Statute of Anne preamble states that;

> " Whereas Printers, Booksellers, and other Persons, have of late frequently taken the Liberty of Printing, Reprinting, and Publishing, or causing to be Printed, Reprinted, and Published Books, and other Writings, without the Consent of the Authors or Proprietors of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their Families: For Preventing therefore such Practices for the future, and for the Encouragement of Learned Men to Compose and Write useful Books; May it please Your Majesty, that it may be Enacted ...".[13]

[12] Bainbridge, D. (2009) Intellectual Property, 7th edition, Pitman Publishing Imprint, pp. 33-34

[13] Patterson, L. Ray; Joyce, Craig (2003). "Copyright in 1791: An Essay Concerning the Founders' View of Copyright Power Granted to Congress in Article 1. Section 8, Clause 8 of the U.S. Constitution". *Emory Law Journal*. 52 (1). Emory University School of Law. ISSN 0094-4076

The Act recognized and protected the right of the authors and assignees. It gave protection to new authors of books for a period of 14 years with sole rights over their works, as provided in the case of *Donaldson v Becket*[14], the case revolved around a dispute over the right to print and publish James Thomson's poem 'the seasons' where Scottish printer Alexander Donaldson was challenging the claim of London bookseller Thomas Beckett and his associates. Thomas Becket and his associates claimed that they had perpetual copyright to the seasons due to the purchase of the rights in 1729. Alexander Donaldson argued that he was free to reprint the work because it had fallen into the public domain as the copyright period had passed. The ruling by the British House of Lords that held that copyright in published works was not perpetual but was subject to statutory limits.[15]

Furthermore, the Act introduced penalties for any person who infringes the rights of authors. However, prior to the passing of the Statute of Anne, there was a Licensing of Press Act, 1662, which prevented the frequent abuses in printing seditious, treasonable and unlicensed books and pamphlets. The foundation, which was built under the Statute of Anne, later influenced international conventions such as the Berne Convention of 1886. The Berne Convention on the protection of Literary and Artistic works was introduced in the international level. The copyright protection gained more significance. The Berne Convention aimed at ensuring protection of copyrights in all contracting states. The United Kingdom took a further step in the protection of Copyright by enacting the Copyright Act, 1842 and later 1911, which created a foundation of copyright laws in Britain and other countries under British rule.

The Copyright protection in most African countries is the result of colonialism. In spite of the existence of artistic, literary and dramatic works, Africans did not benefit out of them since everything was subjected in the hands of the colonial masters[16]. Tanzania Mainland (formerly Tanganyika) officially became a German East African colony (*Deutsch-Ostafrika*) in 1891 until 1919, following defeat in the First World War. During this period, the administration of justice was based on racism dividing natives from non-natives. Copyright activities were not vital due to the nature of their colonial economy. However, following the end of the world war I and the resolutions of the Versailles Treaty, Tanganyika was handed over to British administration as a trust territory in 1919 until her independence in 1961.

[14] (1774) 4 Burr 2408: 98 ER 257

[15] (1774) 2 Brown's Parl. Cases (2d ed.) 129, 1 Eng. Rep. 837; 4 Burr. 2408, 98 Eng. Rep. 257; 17 Cobbett's Parl. Hist. 953

[16] Isaac, H (1935). Language African play, The Girl Killed to Save: Nogqawuse the Liberator Ernest, Dhlomo of South Africa, Pp.17.

The British policy of 1920 was to encourage indigenous African administration along with their traditional practices.[17] This was encouraged by Lord Frederick Lugard. The Britishers maintained customary laws and traditional practices and authorities of the local chiefs[18] Therefore, copyright protection in Tanzania Mainland can be traced back to 1924, where there was an adoption of the Copyright Ordinance Cap 218 from the United Kingdom. After independence, the Copyright Ordinance was repealed and replaced by the Copyright Act No. 61 of 1966. The 1966 Act was repealed and replaced by the Copyright Act of 1984. In 1999, the Parliament of Tanzania passed the Copyright and Neighbouring Rights Act, Cap. 218 to protect the original authors' economic and moral rights and heed to increasing changes in science and technology. Further, the law was passed to domesticate principles enshrined under the Berne Convention and the TRIPS agreement of the World Trade Organization.

Apart from the specific law on copyright, Tanzania also derives copyright protection obligation from its membership in the African Regional Intellectual Property Organisation (ARIPO) and the World Intellectual Property Organisation (WIPO).[19] Further, the Constitution of the United Republic of Tanzania, 1977 recognizes the right to own property and accords protection to one's property in accordance with the law.[20]

The Copyright and Neighbouring Act was designed only to regulate the works which they involve human-authored content. The advancement of innovation in machine learning, language, and AI technologies has posed new challenges in the traditional understanding of authorship, originality and ownership of artificial intelligence-generated content, particularly when there is minimal human intervention. The Tanzania legal framework has not evolved to address the new dimension of technological advancements.

3.0 Methodology and approaches

This article employs doctrinal with the comparative legal research methodology to examine the convergence of Artificial Intelligence (AI) and copyright Laws in Mainland Tanzania. The doctrinal legal research methods focus on the systematic examination of the legal principles, theories, doctrines and processes. This approach involves analyzing the development and the application of law over the time, its underlying principles and the comparative evaluation of

[17] Lugard, F. D. (1922). The Dual Mandate in British Tropical Africa. Edinburgh & London: William Blackwood & sons
[18] Kimambo, I.N., & Temu, A.J (Eds) (1969). A history of Tanzania. Nairobi: East African Publishing House
[19] Tanzania became a member to African Intellectual Property Organization (ARIPO) in August 1, 1983 while in the World intellectual Property Organization (WIPO) became a member in December 30, 1983
[20] Article 24, The Constitution of United Republic of Tanzania, 1977

the legal system with the emphasis on the doctrinal clarity and legal interpretation.[21] The doctrinal legal research examines the relevant laws to uncover their underlying principles in order to ensure coherence, consistency and predictability of the legal outcome.[22]

As the primary data, this study examines laws, case laws, regional and international conventions in relation to Artificial Intelligence and Copyrights. Other written sources such as books, journals, articles and papers serve as secondary data. They provide deep knowledge into policy directions, legislative intent, shortcomings, best practices and the reform agendas within the Mainland Tanzania legal system.[23] At the heart of this study lies comparative legal research to facilitate the legal reforms and policy development in order to promote potential improvements in laws particularly in the new emerging areas which touch upon the Artificial intelligence and the copyright laws in Mainland Tanzania.

This study has also proposed a legislative approach, critically analysing laws, statutes and their practical applications with the focus on legislative intent and historical development behind the laws. In addition, the writer also utilised a critical legal approach in order to interrogate not just what the law says about artificial intelligence and copyright but why it says, who it serves and what its impact on society. Therefore, the intention of the writer is to interrogate the presumption rooted in Tanzanian copyright laws regarding authorship and originality, to question whether the current legal and institutional framework properly conveys the realities of Artificial Intelligence-created works. This study critical approach exposes the legal ambiguities and potential consequences of the accelerated growth of Artificial intelligence in the digital ecosystem.

4.0 Legal framework in Mainland Tanzania, UK, USA and China

4.1. Authorship and ownership

One of the most significant challenges Artificial Intelligence poses to copyright law is the question of authorship and ownership of AI-generated works. Conventionally, copyright is granted to human creators. Different legal frameworks, including those of Mainland Tanzania, the United Kingdom, the United States and China, have defined the term author to mean *'the*

[21] Ngwoke, R. Abhavan, I. P. M. and Oriaifo, H., "A critical appraisal of doctrinal and Non doctrinal legal research methodologies in contemporary times" in International Journal of Civil Law and Legal Research, Vol. 3. No. 1, 2023, pp.08-17at p.8.

[22] Sherlyn, S., What is Doctrinal and Non-Doctrinal Legal Research? https://www.linkedin.com/pulse/what-doctrinal-non-doctrinal-legal-research-sherlyn sharma

[23] Webley, L., "Qualitative Approaches to Empirical Legal Research" Cain, P., (ed.) in the Oxford Handbook of Empirical Legal Research, OUP Oxford, 2010, at p.11.

natural person who creates a work'.[24] Also, as provided under the copyright law of the United Kingdom,[25] while in the United States the copyright act does not explicitly define the time author, however, through courts and the legislative history interpret author as the originator of the work whose typically a neutral person as decided in the case of *Burrow-Giles Lithographic Co. V. Sarony.*[26] On the other-hand, China defined author *as 'a citizen who creates a work'.*[27] The protection of copyright and related rights in Mainland Tanzania is automatic and governed by Copyright and Neighbouring Rights Act,[28] and Copyright and Neighbouring Rights (Registration of Works) Regulations.[29] The Copyright and Neighbouring Rights Act extends the protection of copyright to the original author.[30]

In this study, the author has introduced various court judgments in discussing the legal framework, particularly in the definition of the 'author' across jurisdictions as an interpretive or clarifying tool. Therefore, in the case of *Goldstein v. California*,[31] Joseph Goldstein was convicted under the California State law for the unauthorized duplication and distribution of sound recording. The law prohibited the manufacturing, sale and distribution of unauthorized copies. In this case, the Supreme Court of United States interpreted that the authorship includes any physical rendering of the fruits of creative intellectual or aesthetic labor.

Furthermore, in the case of *RSA Ltd V. Hanspaul Automech Ltd and Another,*[32]an engineering company (RSA Limited) , which specialized in the sale of motor-vehicles which are converted from land-cruisers to Nissan car bodies alleged that another company, Hanspaul Automatics had infringed their copyright by unlawfully using their designed manufacture drawings to manufacture and sell similar vehicles. The High Court of Tanzania held for any work to be protected by the copyright , under section 5 of the Copyright and Neighbouring Rights Act[33] the plaintiff has to prove that the work is original and that it belongs to him. Therefore, the Copyright laws grant exclusive ownership over the works to the original authors and exclude others from using the works without the permission of the original author.

[24] Copyright and Neighbouring Rights Act, Cap. 218 [R.E. 2002], Section 3
[25] Copyright, Designs and Patent Act,1988, Section 9 (1) and 9 (2)
[26] 111 U.S. 53 (1884)
[27] Copyright Law of People's Republic of China as amended 2020, Article 11
[28] Cap. 218 [R.E. 2002]
[29] 2005
[30] Ibid, S. 15
[31] 412 U.S. 546, 561 (1973).
[32] HC-Comm Case no.160 of 2014 (2016) TZHCComD 2021(20 April 2016)
[33] [Cap 218 RE 2002]

This was decided in the case of *Tanzania-China Friendship Textile Company Limited V. Nida Textile Mills (T) Ltd.*[34] URAFIKI, a textile manufacturer in Tanzania, alleged that Nida Mills infringed upon its copyrighted artistic works. The includes specific designs and patterns used in printed fabrics khanga and vitenge. The allegation against Nida was based on the claim that it had reproduced and sold fabrics bearing designs identical or substantially similar to URAFIKI without authorization. In this particular case the court held that the infringement of copyright occurs when any person uses any artistic work, dramatic work, literary work or computer program without the prior permission of the original owner of the work. Infringement involves improper copying or creating work based upon the contents of another without the prior permission. Section 5 (1) of the Copyright and Neighbouring Rights Act provides that the Authors of the original works are entitled to protection simply by virtue of creating the work.

4.1.1 Authorship and ownership by Artificial Intelligence

The Artificial Intelligence systems are capable of producing any work of dramatic, artistic, literarily and computer programs. In addressing the issue of ownership by the AI, there are two issues for consideration; first, the works which have been created by AI with the contribution of a person and second, whether should the AI itself, its programmer, or the user who directed the AI be considered the author.

Generally, AI can not be the copyright owner of the work that they create.[35] In 1941 a Federal Court of New York held in the case of *Oliver v. St. German Foundation*[36] that a group of revelations the copyright owner said were dictated by dead spirits were not protected by the copyright law, because there was no human authorship.

In the *2011 CJEU case .'Painer,'*[37] Miss Eva Painer a photographer took a photograph of Natasha Kampusch with the consent of the parents since she was a child. The photograph was published in the school catalogue with Miss Eva Painer's name as the original author of the photograph. Natasha was kidnapped and after some years she was found. During the news coverage some of the media published Painer's photograph without her permission and some edited the photograph without prior permission. The Court of Justice of the European Union held that "an intellectual creation is an author's own creation if it reflects the author's

[34] (Civil Case 106 of 2020) (2022) TZHC 13134 (28 September 2022)
[35] See 17 U.S.C. § 101 (2018); Naruto v. Slater, 888 F.3d 418, 422 (9th Cir. 2018).
[36] 41 F. Supp. 296 (S.D.N.Y. 1941)
[37] Painer (C-145/10) ECLI:EU:C: 2011:798, paras [88] – [92].

personality. Therefore, if the author is able to express their creative abilities in the production of the work by making free and creative choices, the author of a portrait photograph can stamp the work created with their 'personal touch.' Therefore, the decision of this case emphasises more on the need for human personality input to the creation of copyright works.

Furthermore, in the case of *Urantia Foundation V. Maaherra*[38], the Urantia was the foundation a non profit foundation that published the Urantia book in 1955 and claim to own the copyrights over the book. In 1983, the Urantia Foundation renewed the copyright 1983. The Maaherra Foundation reproduced the portion of the Urantia Book online without the permission of the Urantia Foundation. Therefore, the United States District Court of Arizona also held that revelations were not protectable by the copyright laws since there is no human authorship.

Similarly, in the case of *Naruto V. Slater*[39], the case involved the dispute over the ownership of copyright over the photographs which were taken by the monkey. The photos went viral and published through different social media which made Slater to claim copyright over the photographs. The camera which as used by Naruto belonged to Slater in which he set the camera I the jungle. The Ninth Circuit Court of Appeal held that monkeys' selfies were not protected by copyright law because the monkey is not a human being and therefore is not qualified as an author. In the United States the Copyright office refused to register machine created works stating that in order to qualify as an author the work must have been created by a human being.

In Dabus case[40] in 2018, two applications were filed in the UK naming the AI called Dabus as the inventor. Dabus is owned and made by DR Stephan Thaler, who was named as the applicant. In 2019, the United Kingdom Intellectual Property Organization (UKIPO) refused to proceed with the applications, deeming them withdrawn, on the basis that in accordance with the UK Patents Act, only a human person could be named as an inventor and that DABUS is not an inventor. The UK Supreme Court in an appeal decided that DABUS could not be named as an inventor since it is not a natural person neither a legal person.

Furthermore, in the case of *Thaler v. Perlmutter,* the United States the Copyright Office stated that all generated AI works can not be registered because it lacked human authorship.[41]Also, the Tanzania legal systems currently does not recognize AI as an "author" under copyright law.

[38] 114 F. 3d 955 (9th Cir. 1997)
[39] 888 F. 3d 418 (9th Cir. 2018)
[40] Thaler v Comptroller-General of Patents, Designs and Trade Marks [2023] UKSC 49
[41] *Thaler v. Perlmutter*, 2023 WL 5333236 (D.D.C. August 18, 2023)

The Law provides authorship is generally reserved for human creators. Section 3 of the Tanzania Copyright and Neighbouring Rights Act provides that an author means a natural person who has created the work.

In order to know the rights of ownership of the programmer it is important to distinguish the AI code and the AI's work product. The AI code is a combination of algorithm that are designed by the Programmer in order for the program to work, this is copyrightable. The AI work product the ownership depends upon whether the AI is an agent or the artificial intelligence is the consumer product.[42] If the AI is treated as the consumer product, the end user (customer) will be treated as the copyright holder. The AI programmer is likely not to have any rights in the works which are created by the AI since under the Intellectual property rights the fruits of their labour are considered to be work for hire. In the case of *Lewis v. Activision Blizzard Inc*.[43], Amanda Lewis was an employee of Blizzard. The duties which was given in the company was to assist in the creation of contents of games. In 2005 she was involved in the creation of voice for the game character known baby murlock. The voice creation used the equipment of the company and she was compensated for the sessions. Later Lewis came to know that her voice was not only used for promotional purposes but it was used as an integral part of the game itself. Hence, she failed a suit for copyright infringement.

The United States District Court for Northern California held that as an employee, the creation of the sound recording which was used for one of the characters in the video game which was created for the benefit of the employer during the scope of her employment, and thus the employer has copyright ownership over the recordings. Therefore, the programmers are the ones who creates the AI, they do not have any rights in the subsequent works that the AI produces. It was observed in the recent European Commission Report on AI and IP stated that;

> 'We could be moving towards AI autonomy, at least to a level that the human contribution is "trivial to the creative or inventive process", and therefore we could be entering into an era where machines will "not only assist humans in the creative process

[42] David C. Vladeck, Machines Without Principals: Liability Rules and Artificial Intelligence, 89 WASH. L. REV. 117, 127–30 (2014); Ana Ramalho, Will Robots Rule the (Artistic) World?: A Proposed Model for the Legal Status of Creations by Artificial Intelligence Systems, 21 JINTLAW 1, 10 (2017) ("If there is enough of a human input in creating an original work, then copyright protection will be available at least for the human-created part of the work (even though, admittedly, there may be cases where human and machine contributions are not easy to separate or evaluate).")

[43] 634 Fed. Appx. 182, 184–85 (9th Cir. 2015).

> but create or invent all by themselves." However, we are not presently at that stage and at present AI technology is not currently truly autonomous'.[44]

However, in 2019 a Chinese District Court affirmed the copyrightability of news articles written by an AI powered robot clarifying that it was an AI developer that should be deemed copyright owner of the news articles.[45] In the case of *Shenzhen Tencent v. Shanghai Yingxun Province*[46] the Shenzhen Nanshan District People's Court ruled that an article by Tencent's Dream writer AI system should be protected by copyright. The main question in this case was whether the AI generated content is copyrightable. in a vide to answer this question, the court raised two legal issues. First, whether an AI-generated work can become a work protected by the copyright law, and second, who is entitled to ownership of Copyright in AI-generated works. Based on the Revised Statement on Intellectual Property Policy and Artificial Intelligence by WIPO,[47] the court concluded that "AI generated", i.e. "autonomously generated by an AI", is to be distinguished from "AI-assisted".[48] As for whether the output under these two circumstances can constitute a work protected by the copyright law, the court made its own efforts and contribution

> Upon addressing the first issue the court based upon the issue of artificial intelligence-assisted product.Copyright refers to the rights that intellectual creators enjoy in their creations.[49] If the author's work is protected by the Copyright Law, it must be an original work of an author generated by the author's Labor. Through, Article 2 of the Implementation Regulations of the Copyright Law (2013) stipulate: "The work referred to in the Copyright Law refer to the intellectual achievements that are original and can be reproduced in a tangible form in the literary, artistic and scientific fields."

In other words, any work that requires the protection of the Copyright Law must involve intellectual creation which reflect the author's personal judgment and choice. Hence, in the Dreamwriter case, the Court found that the content generated by Dreamwriter software constituted a written work, but the Court did not break the general legal rule that the work must be the result of the author's intellectual creation. Therefore, in order to argue that the A.I. generated object constituted a work, the Court specifically emphasized that the article in

[44] Bosher H., WIPO Impact of Artificial Intelligence on IP Policy Response from Brunel University London, Law School & Centre for Artificial. Brunel University; London, 2020 P. 14
[45] Sun, H. (2021). Redesigning copyright protection in the era of artificial intelligence. *Iowa L. Rev.*, *107*, 1213.
[46] 2019) Yue 0305 Min Chu No. 14010 Civil Judgment. November 24, 2019.
[47] WIPO/IP/AI/2/GE/20/1 REV. May 21, 2020.
[48] WIPO/IP/AI/2/GE/20/1 REV., May 21, 2020, paragraph 12.
[49] WIPO, WIPO Intellectual Property handbook (Second Edition), 2004, WIPO Publication No. 489

question was generated by the creative team of the plaintiff Shenzhen Tencent using Dreamwriter software.

Further, the arrangement and selection of the creative team in terms of data input, trigger condition setting, template and corpus style choices are intellectual activities that have a direct connection with the specific expression of the article involved. The article's presentation was dictated by the individualized arrangements and choices made by the relevant personnel of the plaintiff's creative team, and thus the work in question involves a certain degree of originality and belonged to the written works protected by China's Copyright Law.[50] That is to say, the work identified by the Court in the case was not completely detached from human intellectual activities and was generated purely by AI. The textual content was not created autonomously by an AI, but merely the result of a human intellectual activity assisted by an AI. In this sense, products formed with the participation of AI are of course protected by the Copyright Law in China.

Also, the court relied upon autonomously generated products of artificial intelligence. The participation of humans in this process should be excluded from the discussion of whether autonomously generated AI products constitute works. Otherwise, there would be no true autonomously generated product of AI. However, due to machine learning and deep learning capabilities, AI may form new, autonomously generated algorithms in addition to algorithms previously set by humans. The products obtained by this artificially formed algorithm of AI seem could be called autonomously generated products of AI.

In the case of works completed by artificial intelligence-assisted applications. Article 11 of the Copyright Law stipulates;

> "Except where otherwise provided in this Law, the copyright in a work shall belong to its author. The author of a work is the citizen who has created the work. Where a work is created according to the will and under the sponsorship and the responsibility of a legal or entity without legal personality, such legal person or entity without legal personality shall be deemed to be the author of the work. The citizen, legal person or entity without legal personality whose name is indicated on a work shall, in the absence of proof to the contrary, be deemed to be the author of the work."

[50] People's Court of Nanshan District, Shenzhen, Guangdong Province, (2019) Yue 0305 Min Chu No. 14010 Civil Judgment. November 24, 2019

Therefore, the article in question is considered to be a legal person work created by the Plaintiff. Accordingly, the copyright of the work completed by the AI in the case is enjoyed by the user of the AI software, i.e. the Plaintiff. Therefore, in handling of this case is in full compliance with the general rules of judicial practice of copyright in China. It reflects the creative intention of human beings, and the copyright of the works formed by it belongs to the corresponding natural or legal person, and the distribution of the right among natural or legal persons can be adjusted in accordance with the existing legal norms.

In case of photographs works involving AI. It was decided in the case of *Gao Yang v. Youku*[51] In this case, the plaintiff attached a sports camera to a hot air balloon, and by releasing the balloon, the camera automatically took pictures of the outer space of the earth surface, and then select appropriate screenshots from the video automatically captured by the camera for processing. The court held that screenshots selected from videos taken automatically by the camera constitute photographic works, and the unauthorised use of this picture by others constitutes an infringement of the copyright of the Plaintiff's photographic work.

The issue of copyright ownership, particularly when Artificial Intelligence is involved in the creation of the work, differs across jurisdictions. Courts differ on how they treat AI-assisted generated works but, in China though it does not recognize AI as the legal author but the courts have begun to recognize AI involvement in generation of works as long as there is substantial

4.2. Copyright Infringement

The term infringement can be defined as unauthorised use of work protected by the copyright in a way that violates the exclusive rights of the copyright holder in the reproduction, distribution, performance, translation and importation of copies without authorisation.[52] The United Kingdom Copyright law also prohibits infringement[53] also under the United States copyright laws prohibits infringement[54] and China[55]. Infringement have been well interpreted in the case of *Japan International Cooperation Agency (JICA) v. Khaki Complex Limited*,[56] to mean unauthorized use of another person works without consultation or authorization and selling the work for gain. Furthermore, in the case of *Macmillan Aidan (T) Ltd v. Nyambari*

[51] Beijing Intellectual Property Court (2017) Jing 73 Min Zhong No. 797 Civil Judgment. April 2, 2020.
[52] Copyright and Neighbouring Rights, Act, Cap. 218 R.E 2002, Section 27
[53] S Copyright, Designs and Patent Act, 1988, Section 16 (1)
[54] Copyright Act, 1976, Section 106
[55] Copyright Law of People's Republic of China, Article 48
[56] (2006) TLR 343

Nyangwine and 2 others,[57] it was held that copyright entails a bundle of exclusive rights that enable the creator to control the economic use of such works whereby he or she though such exclusive right may authorize or restrict inter alia, reproduction of a work in copies, distribution of the copies to the public, translation or adoption of the work.

Also, in the case of *Ladbroke (Football) Ltd v. William Hill (Football) Ltd*[58] in this case it was stated that the term infringement it is when the copyrighted work is reproduced, distributed, performed, publicly displayed or made into derivative work without the permission of copyright owner. It was further explained in the case of *Designers Guilds v. Russel Williams*[59] that in order to take an action for infringement the copyright owner must identify those features which are alleged to have been copied from the copyright work. The existing problem of copyright infringement has been contributed with the increase of netizen across cyberspace in connection with the use of AI.

4.2.1 Copyright infringement by AI models

The AI models can create derivative works that resembles to the copyrighted materials. The Copyright and Neighbouring Rights Act protect the derivative works under the copyright of the original author. Copyright protection for the owner of the original works extends to derivative works which means the copyright owner of the original works also owns the rights over the derivative works. The creator of the derivative work himself can own copyright over the work provided that he has obtain permission from the original author. Therefore, any person who creates a derivative work without prior permission from the original owner it amounts to infringement.

The rapid increase of innovation has created uncertainty regarding whether artificial intelligence infringe copyrights or not. There are two debated issues regarding the impact of AI on copyright raised by various copyright owners. The first issue is regarding the AI models which are trained by using copyrighted works as to whether they infringe copyrights.[60] The second issue is regarding is the output of the AI models itself which tends to affect the copyright.[61]

[57] HC-Comm, Case No. 210 of 2010
[58] (1964) 1 WLR 273
[59] (2000) WLR 2416
[60] Andersen v. Stability AI Ltd., No. 3:23-cv-00201 (N.D. Cal. Oct. 30, 2023).
[61] The N.Y. Times Co. v. Microsoft Corp., No, 1:23-cv-11195, (S.D.N.Y. filed Dec. 27, 2023).

The AI systems, often require large datasets to train on. The datasets frequently include copyrighted material, such as text, images, music, and video, which raises concerns about whether the use of such data infringes the copyright laws. In the United States the US Copyright Office has issued a notice seeking for the comments about the collection and curation of AI datasets which are used to train the AI models and whether permission by or compensation for copyright owners should be required when their works are included in the process.[62] The AI creates legal uncertainty between AI industries and Copyright owners.

In the case of *Getty Images (US), Inc v. Stability Al, Inc*[63] Getty Images has claimed that Stability AI is responsible for infringing its intellectual property rights, both in how Stability AI has allegedly used its images as data inputs for the purposes of training and developing Stable Diffusion, as well as in respect of the outputs generated by Stable Diffusion, which Getty claims are synthetic images that reproduce in substantial part its copyright works and/or bear Getty brand markings. Getty has further alleged that Stability AI is responsible for secondary infringement of copyright on the basis that Stable Diffusion constitutes an "article" that was imported into the UK without its authorisation when it was made available on platforms GitHub, HuggingFace, and Dream Studio. Further claims allege infringement of its database rights, trade marks, and the law of passing off. Late last year, Stability AI applied for the claims pertaining to the training and development of Stable Diffusion and in respect of secondary copyright infringement to be struck out pre-trial. However, the application was rejected by the High Court, meaning the claims will proceed to be heard at trial, which looks set to take place in summer 2025.

There number of issues which are raised regarding the AI models in the infringement of copyright. The AI models require vast of datasets in order to produce output, the datasets may include copyrighted works such as books, articles, different images and videos which can raise infringement concerns as discussed in the case of Getty.

The use of copyrighted material in training datasets has led to lawsuits, majority of the lawsuits are still pending. The litigations will likely determine the legal relationship between the Copyright owners and the AI platforms. Until the Courts settles the matter the legal uncertainties will continue to persist. The Courts have not yet fully addressed this issue, leaving the legal status of AI training unclear.

[62]Notice of Inquiry, 88 Fed. Reg. 59942 (U.S. Copyright Office Aug. 30, 2023), https://www.regulations.gov/document/COLC-2023-0006-0001
[63] 1:23-cv-00135-JLH

4.3. Automated Content Creation and Market Saturation

The AI is capable of producing a variety of computer programs, plays, and artistic works. Due to their ease of creation using AI software, the AI contents have the ability to produce a deluge of AI works for the market. Since AI works are not produced by humans, they are referred to as automated content. The innovative professional works of human artists, such as writers and musicians, are sometimes undervalued by automated efforts.

This is how market saturation affects things. Humans find it difficult to compete with the machines when the competition between AI and human content providers gets unbalanced. The distinction between works produced by humans and those generated by artificial intelligence has not been made under the Copyright and Neighbouring Rights Act. Because of this, it is challenging to control the financial effects of AI-generated content on the creative sectors.

4.4. Challenges to Copyright Enforcement

The Constitution of the United Republic of Tanzania it grants the power to the Parliament of Tanzania to enact law.[64] The Copyright and Neighbouring Rights Act, 1999 was enacted with an objective of safeguarding the moral and economic rights of the original works of authors over the works which are fixed in any tangible medium of expression. Through the Act it gives the exclusive rights to make copies, creative derivative works based on copyrighted works, distribute copies of work, perform and display the work in public, literary works, music works, dramatic works, sound recording, architectural and chorographic works[65]. Furthermore, the Act provides that works shall be protected irrespective of their form of expression, their quality and the purpose for which they were created.[66]

The Copyright laws of Tanzania does not recognise the AI as human beings nor as legal persons. Thus, they can not own copyright for their created works. Through the moral rights as guaranteed under the act, it is provided that the original author has the right to claim ownership over the work[67] and the act has defined the term author as natural person who have created the work.[68]Therefore, the enforceability of copyright infringement by the AI has been complicated since the AI is not recognised as a natural person. This was held in a famous case of is **Naruto**

[64] Article 63 (d), The Constitution of United Republic of Tanzania, 1977
[65] Section 5 (1), Copyright and Neighboring Rights Act, 1999
[66] Ibid Section 5(3)
[67] Section 11 (a), Copyright and Neighboring Rights Act, 1999
[68] Ibid, Section 4

v. Slater,[69] also known as the "monkey selfie copyright dispute." In that case, human photographer, David Slater, left his camera unattended in a wildlife reserve in Sulawesi, Indonesia. A crested macaque monkey, Naruto, found the camera and began taking selfie photographs. Slater took the pictures and published them in a book in which he described the selfies of Naruto as "posing to take its own photograph, unworried by its own reflection, smiling. Surely a sign of self awareness?". The United States Court of Appeals for the Ninth Circuit held that since animals are not human, Naruto lacked subject matter jurisdiction under Article III of the constitution and failed to state a claim under the Copyright Act. The court made no remark regarding how it would have ruled had Naruto been a pet, and therefore property of a human being.

When someone breaches the exclusive right of a copyright owner, that person has violated the copyright. Copyright holders always register their works with COSOTA to protect themselves. The original author may pursue remedies like an injunction, the impoundment and disposal of the infringing work, and monetary damages in the event of any infringement. However, in the event that the AI commits an infringement, there is a legal question over enforceability. To overcome these obstacles and offer more precise standards for differentiating between original and infringement-related works in the AI field, enforcement techniques will need to change.

4.5. Fair Use and AI Creativity

When discussing AI innovation, the idea of "fair use" becomes pertinent. The fair use theory raises concerns regarding whether AI-generated works are considered transformative since AI models frequently reuse and alter preexisting works. Certain unpermitted uses of copyrighted content are allowed under fair use as long as they give the original work a new meaning or function.

For example, AI technologies that produce new kinds of music or art, such as those that create a significant departure from the original sources, can be considered transformational. Determining whether an AI development is sufficiently transformational can be difficult and controversial, as this is a very subjective area of law.

4.6. Originality and authenticity

The Tanzania Copyright Laws provides that of original literary and artistic work shall be

[69] See Susannah Cullinane, Monkey Does Not Own Selfie Copyright, Appeals Court Rules, CNN (Apr. 24, 2018), https://www.cnn.com/2018/04/24/us/monkey-selfie-peta-appeal/index.html [https://perma.cc/H6A3-89X6]

entitled for copyright protection.[70] Further, the Act provides that the work or works shall be owned by the author or authors who have created the work. The authors of the joint work they shall be co-owners of the joint work. For any work which is done under the contract of employment, the employer shall be the owner of the work.[71] Originality under the Copyright laws it involves human creativity. The AI is not a human being, and also, it is not recognised as a legal person in Tanzania; hence, it posses legal challenges to the originality and authenticity of the works created. The AI analyse datasets of existing content and recognises patterns in order to generate output on the basis of the analysis. The foundation of the output created by the AI lies in the pre-existing human-made works. This imposes a legal challenge as to whether the output created can be considered as the original work. The works created by human beings have certain attributes such as intention, emotion and cultural depth which are lacking in the AI works. The Copyright framework of Tanzania is not yet equipped to address the AI-generated content's originality.

5.0. Legal issues that can draw lessons from China

Mainland Tanzania can learn valuable reasons from the Republic of China's decision on the status of Artificial Intelligence in copyright. Though the legal framework of China is not entirely comprehensive, there are still many aspects in which Mainland Tanzania can benefit. The lessons are indicated as follows;

5.1 Development of clear legal recognition for AI-assisted works

The Nanshan District People's Court, Shenzhen, recognised that Artificial Intelligence-generated works can also involve human input in the generation of the works. Also, human always provides creative guidelines on how Artificial intelligence should create the output of the work. Therefore, there is a need to amend the Copyright and Neighbouring Rights Act, Cap 218, to include the works in which the Artificial Intelligence has assisted in its creation. The definition of the term author should be amended to include Artificial Intelligence as an agent that generates the contents.

5.2 Establishment of the criteria for the originality in AI generated works content

The Nanshan District Court, basing upon the concept of originality and intellectual efforts, every AI-assisted generated works must at least involve a minimal level of human creativity in order to protect the work. Therefore, in Mainland Tanzania, there is a need to develop clear

[70] Copyright and Neighbouring Rights Act RE 2002, S. 5(1)
[71] Ibid, S.15

guidelines on how the courts can assess or determine originality in cases in which AI is involved.

5.3 Recognise corporate ownership of AI-Generated contents

The Nanshan District Court permitted Tencent to be a copyright holder in which it recognized the company's role in developing the Artificial Intelligence system. The Mainland Tanzania copyright law does not permit or recognise legal persons to hold copyright in AI assisted works. Hence, there is a need to amend the law and recognise the right of legal persons, i.e the companies, to hold copyright in AI-assisted works. There is a need for a legal assumption that the operator of the AI owns the output.

5.4 Enhancement of digital IP enforcement mechanism

The Tencent case purely involved protection of AI-generated work from unauthorised publication. This case promotes protection against online infringement and promotes the enforcement of digital copyright. In Mainland Tanzania, there is a need to strengthen the digital copyright and improve the strategies to detect the online infringement of AI-generated content. The Copyright Society of Tanzania (COSOTA) and Tanzania Communications Regulatory Authority (TCRA) in order to respond to online infringement.

5.5 Maintaining right clarity

The decision by Tencent encourages companies to further innovate in Artificial Intelligence, and lawmakers should create a legal pathway for the protection of Artificial Intelligence-assisted works or outputs. Therefore, the Copyright laws of Mainland Tanzania should encourage AI works rather than discourage them since only human authorship is recognised.

5.6 Use of pilot cases to build precedent and legal capacity

The Tencent case serves as the judicial precedent in China in the case of future Artificial intelligence and intellectual property disputes. Therefore, the Tanzanian judiciary should encourage the district courts to entertain the pilot cases involving the AI-generated works in order to build the local jurisprudence over the matter.

6.0 Conclusion and recommendations

In conclusion, creativity and innovation are unavoidable in the digital economy. In the modern era, artificial intelligence continues to evolve at a rapid pace. Legislators must establish the conditions necessary to encourage a cooperative approach to copyright regulations. For AI and

copyright to coexist in the digital environment, it will be crucial to strike a balance between innovation and creativity and the defence of intellectual property rights. Therefore, the author recommends the following;

a. Adoption of AI in Copyright laws to recognise authorship and ownership of AI-generated works- In order to address the complex legal uncertainty imposed by the advancement of AI technologies, the existing copyright laws of Tanzania, which are designed to recognise human authorship and ownership of the original works, need to be updated. The following recommendations are proposed; to amend the Copyright and Neighbouring Rights Act and other related laws explicitly to recognise the authorship and ownership to the AI on AI generated works by defining AI generated works and frame the criteria for qualifying AI works for copyright protection taking into consideration the originality and creativity of the generated work. To establish the legal framework which will deal with the recognition of the ownership of the authors or entities which develop the AI systems. Recognising the collaboration of authorship between human beings and Artificial Intelligence. The proposed provisions will ensure protection and recognition of contributions from both human beings and AI. Preparation of the guidelines, which will deal with the promotion of the ethical use of AI to prevent infringement of copyright and promote transparency on the role of humans and AI in the creativity process.

b. Prevention of copyright infringement by AI models-The fast growth of digital AI technological tools has increased the risk infringement of copyright in Mainland Tanzania. The following are the recommendations for the adoption of AI in copyright laws in order to prevent infringement. he copyright laws of Mainland Tanzania should contain provisions which regulate copyrighted materials to be used in AI training. To frame the provisions which will require transparency on data set usage by the AI program developers. The AI developers should obtain licence from the original authors or copyright holder prior to the use of their works to train datasets. The law makers should establish the guidelines for fair use in AI training taking into consideration the amount of work and the market impact of the AI generated work against the original work. The introduction of the platforms which can assist in the negotiations, payments and authorisation of use between the AI programmers and copyright holders. To empower COSOTA to audit and certify the AI models if they are in compliance with the copyright protection standards of the country, and also, shall be given powers to

impose penalties for non-compliance. To equip COSOTA with blockchain technology in order to manage the use of copyrighted material in the AI-generated works.

c. Copyright laws to control the AI automated content creation and market saturation. The AI automated content has imposed challenges, including market saturation, the decrease of the value of the works which the human author creates and also difficulties in differentiating content created through human authorship and AI-generated content. The following are the recommendations to address the issue: The law shall impose the condition of labelling the works in order to create transparency for consumers by identifying the works which involve human authorship and the works which are AI-generated. COSOTA should prepare the registration framework for the AI-generated works. COSOTA to set the general set of standards for the AI-generated content in order to qualify its originality. To introduce the regulation which will control the accessibility of AI-generated works in the market. COSOTA should be equipped with AI-generated content verification systems.

d. Challenges to copyright enforcement-To promote training on AI-related copyright issues to the legal practitioners, especially lawyers, judges and other law enforcement agencies. To develop legal provisions which deal with the revenue sharing in order to compensate the Tanzanian creators in case their works are used in AI-generated works. To encourage the East African Community (EAC) to create regional frameworks for AI and copyright-related issues.

e. Copyright duration and public domain-The copyright protection duration should be reviewed in order to promote further innovation and cultural development in Tanzania. Tax incentives or grants should be introduced to encourage creators to release their works into the public domain earlier. The government should establish the Public Domain Registries to promote accessibility of works and avoid disputes over the use of AI systems. The government should introduce permission systems for extended copyrighted works, which may help to authorise or deny the use of AI.

f. Fair use and AI creativity-Fair use was introduced so as to accommodate the divergent interests between the authors of published works and the users of such works. Section 12 of the Copyright and Neighbouring Rights Act should be expanded to include AI-related copyright issues, particularly the AI system to use copyrighted materials in AI training, to allow transformative AI-generated works for the purpose of

education and research. The Copyright and Neighbouring Rights Act should contain a clear definition of transformative use to ensure free use applies to the AI generated works when there is significant creativity. The Copyright and Neighbouring Rights Act should contain clear provisions for the exceptions to AI-generated works to permit limited use of the copyrighted materials. The introduction of compulsory licensing, where free use does not apply, to AI training data set models.

g. **Originality and authenticity -**The Tanzania legal framework should assign authorship to the AI in the works which are AI generated if no human creative input is evident. The works which have been entirely created by the AI without human creativity should be placed within the public domain. The law should set provisions which require the AI developers to disclose the source of their training data.