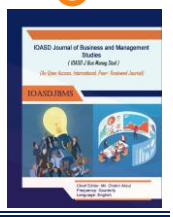
OPEN ACCESS

IOASD Journal of Business and Management Studies

IOASD J Bus Manag Stud, Vol-2, Iss-4, Oct-Dec., 2025
Frequency: Quarterly
ISSN: 3048-7595 (Online)
ISSN: 3049-0510 (Print)
Homepage: https://ioasdjbms.com



Redefining Digital Licensing Agreements in the Era of Artificial Intelligence

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DOI: 10.67224/ioasdjbms.2025.v02i04.004

ABSTRACT

Intellectual property laws are encountering challenges due to Generative AI technologies. These laws were enacted to protect human creative works and had to deal with technologies that create a content with a quality of that of the human one, using data that might be legally protected, triggering issues over ownership of the AI-created content, as well as the liability that might result out of violations. This research uses the descriptive analytical approach to scrutinize the digital licensing agreements and assess their capacity to accommodate the terms aimed to regulate using the Generative AI, such as disclosing sources of the data used in training. The research shows that the existing legislations refuse to recognize the role of Generative AI when it partakes in creating a content with man, indicating that digital licensing agreements are more flexible tools in regulating and defining liability, through inserting terms that oblige developers to disclose sources of training data, setting rights to use and amend the created content, and distributing liability on AI developer and the ultimate user. The developed licensing agreements can help bridge the existing legislative gaps in order to achieve balance among rights of parties and promote innovation.

Keywords: digital licensing agreements, AI, originality, AI-generated works, intellectual property.

Original Research Article

Article History
Received: 14-10-2025
Accepted: 19-11-2025
Published: 02-12-2025

1. INTRODUCTION

The artificial intelligence came to existence in 1950s, as this term was first used in a conference held by Dartmouth University in the summer of 1956 [1]. AI developments went on over years until emergence of Machine Learning technologies, applications, and types, such as Chat GPT, which supported conducting researches, writing and digital content, making it an example of merging deep learning and large language models, in addition to the digital assistant Siri. Face-recognition technologies were also developed as one of the most significant AI applications [2].

Given spread of the digital AI-created content, we need to develop laws appropriate to its nature, like what happened when Internet emerged, and its accompanying technical challenges that encountered the virtual information community it created and which needed a legal-technical regulation then. Digital licensing agreements emerged as a tool to regulate digital transactions, either among companies themselves on one hand, or between companies and consumers on the other hand, and in spite of the legal criticism directed to them at their inception, they have proved their effectiveness as a flexible mechanism that can adapt to technical developments, and they also have played an important role in regulating the digital content till date. They were not the optimal system, but these agreements were not confined to be a tool of control, rather they contributed to boost innovation [3], the role that AI is redefining

[1] *The story of artificial intelligence in patents*. (n.d.). Www.wipo.int. https://www.wipo.int/tech_trends/ar/artificial_intelligence/story.html

[2] Foote, K. D. (2024, March 5). A Brief History of Generative AI. DATAVERSITY. https://www.dataversity.net/a-brief-history-of-generative-ai/

[3] *DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS COMPETITION COMMITTEE Licensing of IP Rights and Competition Law Background Note by the Secretariat*. (2019).

nowadays through new concepts suit the existing cooperation between man and Generative AI, requiring redefining some of their terms to keep pace with modern technical complexities.

2. SIGNIFICANCE

Importance of reassessment of conventional digital licensing agreements lies in making them more appropriate to Generative AI rapid developments in protecting intellectual properties when using both man-created digital content and AI- created digital one, enhancing innovation and growth in an appropriate legal environment, thus needs of the user, innovator, developer and business owners can be matched.

3. RESEARCH PROBLEM

How to develop the conventional digital licensing agreements that were set to regulate man-created content to keep abreast with the Generative AI technologies, promote innovation, and protect rights of human innovators against using what they create in training Generative AI at the same time. As the existing laws are unable to define ownership of the AI-created digital content, such as the (US Copyright Law), which stipulates that an innovator must be a human being, it is difficult to define legal liability in case rights of the works/data used in its training are violated. The difficulty is attributed to inability to distinguish protected works from the unprotected ones, therefore, the research seeks to redraft the digital licensing agreements to bridge the legal gap.

4. METHODOLOGY

The research will adopt the descriptive approach to describe the digital licensing agreements and analyze Generative AI impacts on them.

5. LITERATURE REVIEW:

1-A study entitled Generative AI Has an Intellectual Property Problem

AI triggers legal concerns over intellectual property as it uses big data collected from the internet without getting a permission. Such works are often protected, so should companies wish to use training data, they should make sure that it is licensed and guarantee terms of protection in its contracts, and creators should monitor using their works. In spite of the opportunities offered by the Generative AI, it must respect rights of the original creators [4].

2-A study entitled Creativity, Artificial Intelligence, and the Requirement of Human Authors and Inventors in Copyright and Patent Law

The law shows interest in the human role and social context in the creativity process and not only in creativity itself, as in spite of the trends that support the importance of granting protection to copyrights and patents of human authors, there are also trends call for the Generative AI-generated works to be included by legal protection [5].

3-A study entitled Rethinking copyright exceptions in the era of generative AI: Balancing innovation and intellectual property protection

This paper reviews the exceptions of copyright laws in the European Union, United Kingdom and Japan, and reviews a hybrid model for the exceptions of commercial and non-commercial uses, and is intended to achieve a balance between technological progress and respect for creators' rights, facilitating AI development and enhancing innovation [6].

4-A sheet entitled Who Owns the Output? Bridging Law and Technology in LLMs Attribution

This paper proposes a legislative and technical revision to present a legal framework that ensures accountability, so it proposes three cases used to integrate technologies to improve attribution of the content ownership accurately. In spite of this, there are restrictions need new solutions that can be developed in order to be applied to **LMM, LMM** systems [7].

5- Copyright Bureau report: Copyright and Artificial Intelligence Part 1: Digital Replicas

Part 1 of the report addressed issues of AI impact on digital copying, as content falsification triggered creators and legislators' concerns, therefore, the Bureau asked for comments on adequacy of existing laws. The comments called for enacting a new federal

https://www.oecd.org/content/dam/oecd/en/publications/reports/2019/04/licensing-of-ip-rights-and-competition-law_20595b8f/6a74221e-en.pdf

[4] Appel, G., Neelbauer, J., & Schweidel, D. A. (2023, April 7). *Generative AI Has an Intellectual Property Problem*. Harvard Business Review; Harvard Business Publishing. https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem

[5] Mammen, C., Collyer, M., Dolin, R. A., Gangjee, D. S., Melham, T., Mustaklem, M., Pireeni Sundaralingam, & Wang, V. (2024). Creativity, Artificial Intelligence, and the Requirement of Human Authors and Inventors in Copyright and Patent Law. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4892973

[6] Saliltorn Thongmeensuk. (2024). Rethinking copyright exceptions in the era of generative AI: Balancing innovation and intellectual property protection. *the Journal of World Intellectual Property/ the Journal of World Intellectual Property*. https://doi.org/10.1111/jwip.12301

[7] Emanuele Mezzi, Asimina Mertzani, Manis, M. P., Siyanna Lilova, & Rodayna Hmede. (2025, March 29). *Who Owns the Output? Bridging Law and Technology in LLMs Attribution*. https://doi.org/10.48550/arXiv.2504.01032

law to protect content against unauthorized digital copying which harms individuals and all fields [8].

6. The relation between licenses of digital content and AI-created content

Most academic studies agree that Generative AI is a technology that can imitate human capabilities to produce a digital content like generating photos and videos according to the user's inputs, such as Mid-journey, Chat -GPT, Co-pilot and other applications that depend on algorithms trained with huge numbers of data, including copyrighted works , increasing legal argument on whether it is legitimate to use them or not. [9,10,11,12]

Licenses of digital content are regarded legal agreements exist between intellectual property rights owners and its users, and the two parties are called the licensor and the licensee [13]. These agreements are intended to set terms of using that content [14], thus they show how to use and what the user is not allowed to do under these agreements, such as amendment, reverse engineering and resale, thus they ban what copyright law approves [15]. Since AI came to existence, ability to create the digital content has become more complicated due to emergence of technological challenges that existing digital licensing agreements cannot encounter, as AI generates the new content relying on deep learning through using data legally protected under intellectual property laws and non-protected ones, so, for instance, should the AI-generated content is a photo, who owns that photo? What are the terms and scope of its use? Therefore, it is necessary to redefine digital licensing agreements to keep pace with these technologies and the other ones, and thus they become able to protect rights of original creators on one hand, and do not hinder innovation on pretext of laws and contracts on the other hand [16].

7. Types of digital licensing agreements

Types of digital licensing agreements vary according to the rights granted to intellectual property subject to the agreements, as the licensing agreement enables the licensee to use, distribute or amend the licensor's intellectual property, such as patents, trademarks and copyrights, in return for a fee. These agreements, however, exist in three main types [17,18].

1- **Exclusive License**: licensee is granted the exclusive right to use the intellectual property, and under this type of licensing, rights owner is not allowed to grant a license to any other destination during duration of the agreement.

2- Non-Exclusive License: the original owner is allowed to grant licenses to several parties at the same time. This type of licensing is used to increase dissemination of a content or product as well as the scope of access and distribution.

3- Sole License: This type of licensing grants intellectual property rights to a sole party, however, the original owner maintains the right to use the content for himself, as this type of licensing combines advantages of exclusive licensing (granted to the licensee) and flexibility of use granted to the licensor.

There are licenses specified with a certain type of rights such as trademarks licensing, as this type allows others to use the name or slogan of a company, thus it contributes to enhance the identity of the trademark and increase revenues, like Kentucky, Coca Cola and other renowned trademarks.

Commercial Secrets License: this type pertains to confidential information that grant companies a

[8] Copyright and Artificial Intelligence. (n.d.). https://copyright.gov/ai/Copyright-and-Artificial-Intelligence-Part-1-Digital-Replicas-Report.pdf

[9] *Generative AI Navigating Intellectual Property IP and Frontier Technologies Factsheet." 2024* .Www.wipo.int. Retrieved 2024, from https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2024-8-en-generative-ai-navigating-intellectual-property.pdf.

[10] Article 3: Definitions | EU Artificial Intelligence Act. (2025, February 2). Future of Life Institute. https://artificialintelligenceact.eu/article/3/

[11] NCSL. (2024, June 3). Artificial Intelligence 2024 Legislation. Www.ncsl.org. https://www.ncsl.org/technology-and-communication/artificial-intelligence-2024-legislation

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[13] Mik, E. (2016, March). *Contracts Governing the Use of Websites*. Ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2762131

[14] Russ, B. (2016). All Wrapped Up and Nowhere to Gogo. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2731804

[15] *Copyright Licensing*. (2019b, June 5). Justia. https://www.justia.com/intellectual-property/copyright/copyright-licensing/

[16] CFI . (2022, December 5). *Licensing Agreement*. Corporate Finance Institute. https://corporatefinanceinstitute.com/resources/accounting/licensing-agreement/

[17] Types of Licensing Agreements. (2019, October 24). BrewerLong. https://brewerlong.com/information/types-of-licensing-agreements/

[18] Kasdan, M., & Llp, D. (2025) *Patent Licenses: Key Provisions*. Retrieved April 11, 2025, from https://www.lexisnexis.com/supp/LargeLaw/no-index/coronavirus/intellectual-property/intellectual-property-and-technology-patent-licenses-key-provisions.pdf

competitive advantage, such as the special recipes. Companies are required to sign confidential agreements to protect such information. One of the well-known examples is the secret recipe of Coca Cola drinks.

Patents License: an inventor is granted exclusive rights to use his/her own invention, and can license these rights for other companies. For instance, Tesla company licensed the patents of its electric cars for other car manufacturers to enhance development of electric cars technology.

Copyrights License: this type protects creative works such as music and books, and grants innovators the right to control the use of their own works. For instance, Warner Music Group licenses songs of singers such as Ed Sheeran to pay fees for using broadcasting platforms [19, 20, 21, 22].

8. Why are digital licensing agreements applied?

Licensing is regarded a tool to access information, technologies or any other advantages in return for money [23], as in Warner Music which licenses songs by singers such as Ed Sheeran to be used on broadcasting platforms in return for payment of fees. Although these agreements help access users' digital content, they have been still facing big historical and legal issues [24].

9. Historical and legal challenges to digital licensing agreements [25, 26]

These agreements have been rejected by consumer protection agencies for many years, due to including some terms that are unfair for consumer/ user's rights, until they were approved to be used after they had been judicially and legally recognized, and dealing under them has become inevitable. Despite they have been facing many legal challenges till date, for the same reasons, these agreements ensure owners of intellectual rights and firms the legal protection against unauthorized use of their rights, through setting restrictions that achieve their financial and legal interests by inserting complicated terms of use, thus, they are regarded essential to maintain their rights particularly in light of the continuous technological development On the other hand, they help users access a wide digital content, so they are legal technical agreements essential for dealing in the digital environment, and , eventually, it is all for the interest of the digital economy.

In spite of the benefits, they render to intellectual property rights owners, digital licensing agreements, as mentioned above, are still facing legal challenges and as technological development grows, they face bigger technological issues, particularly in the wake of emergence of artificial intelligence. It was expected that technological development would provide effective solutions for the existing legal and technological issues, but, unfortunately, it increased problems of digital licensing agreements, as moreover users have been suffering for years from the complicated and unfair terms of licensing, this suffering was intensified with problems concerning ownership of the AI-created content and how to use the training data used by artificial intelligence. Therefore, there is a dire need to redraft the digital licensing agreements to keep up with these modern technological complications, including redefining the concept of ownership and rights to use, and this is what the research reviews.

10. Legislative development of intellectual property protection laws in Egypt.

Technological development poses big challenges, and Egypt has been keen on supporting intellectual property protection through updating laws by the government to keep pace with the technological developments. In line with those developments, the Egyptian government presented a draft law on intellectual property in late 2001. Then the Intellectual Property Protection Law No.82 of 2002 was issued. After that, the National Strategy for Intellectual Property 2022-2027 was launched [27], and is supposed to be implemented over two stages till 2027 In support for the

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[19] Licenseware. (2023, January 16). A brief history of software licensing. Licenseware. https://licenseware.io/a-brief-history-of-software-licensing/

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[21] Avram, H. (2003). Machine-Readable Cataloging (MARC) Program. *Encyclopedia of Library and Information Science*. https://doi.org/10.1081/E-ELIS

[22] P McCoy Smith. (2022). Copyright, Contract, and Licensing in Open Source. *Oxford University Press EBooks*, 71–112. https://doi.org/10.1093/oso/9780198862345.003.0003

[23] Heritage, C. (2019). *Chapter 1 - What is a Digital Licensing Agreement Strategy? - Canada.ca*. Canada.ca. https://www.canada.ca/en/heritage-information-network/services/intellectual-property-copyright/guide-developing-digital-licensing-agreement-strategy/what-digital-licensing-agreement-strategy.html

[24] Contreras, J. L. (2023, October 29). *Public Licenses: Open Source, Creative Commons and IP Pledges*. Ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4616326

[25] Contreras, J. L. (2023, October 29). *Public Licenses: Open Source, Creative Commons and IP Pledges*. Ssrn.com. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4616326

[26] Heritage, C. (2019). *Op. Cit.,*.

[27] Amer, A. (2024, January 27). *The Egyptian Intellectual Property Agency in light of the new national strategy.. Forward-looking vision. Legal publications.* https://manshurat.org/content/ljhz-lmsry-llmlky-lfkry-fy-dw-lstrtyjy-lwtny-ljdyd-rwy-stshrfy#_ftn11

efforts exerted by the Egyptian government to protect intellectual property, the Electronic Signature Law No.15 of 2004 was issued [28, 29] as it recognizes electronic signature mechanisms in processing digital transactions, thus it reduces falsification. Intellectual Property Protection Bureau, affiliated to ITDA, was also set up and it issues and regulates licenses and provides technical support for judiciary on disputes pertaining to intellectual property violations. In the same context of protecting intellectual property rights in Egypt, Cairo Declaration of 2023, was regarded a step to support the legislative and judicial framework through offering supporting measures for innovators. In light of the widespread use of artificial intelligence and its impact on the content, these initiatives and legislative updates reflect Egypt's interest in making its laws keep up with technological developments, promoting innovation as well as investment in digital economy.

11. US Acts on Protecting Intellectual Property in the Digital Environment:

The Digital Millennium Copyright Act (DMCA) [30] is basically intended to support the public interest, and calls for keeping requesting for user rights to intellectual property rights, as the waivers granted by this act for educational and research purposes, such as using movie clips in training courses, mining and video games, are renewed every three years. Article No.1201 prohibits circumventing technological measures (Digital Rights Management) such as protecting the digital content. In addition, interpretation of article NO. 1201 of the same act could be also affected by AI developments, as the case of Doe v, Github raised the issue of stipulating conformity between the original and copied version, copyrights, and artificial intelligence, as well as the concerns raised over the issue of competition and monopolizing licenses of training artificial intelligence and the data used for that purpose regarding fair use, and To use for free under an open source license [31] . Considering the guidelines clarified by the US Legal Department Bureau for Patents for the year 2024 on using the AI-based tools, as they focused on defining the inventor as the natural person, and this was clarified by the Federal Court which issued the same decisions made by the US Patents and Trademarks Bureau when it rejected two petitions to name an AI system as an inventor, [32] while the US Copyrights Bureau issued the second part of the AI report which addressed possibility of protecting the Generative AI-created content under copyrights. The report concluded that it is not possible to protect the Generative AI outputs under copyrights act unless a human author specifies adequate expressive elements, and this includes the cases where human work is noticeable in the AI outputs [33].

12. European and US trends on adopting artificial intelligence:

The European Union [34] aims at being a pioneer in artificial intelligence through adopting policies that balance between technological progress, user safety, and innovation support, as it classifies risks of using artificial intelligence from minimal up to unacceptable, paying attention to special rules for the high-risk categories. The EU also keeps developing the legislative policies such as updating civil liability rules to suit digital challenges (Machinery Regulations). In respect of the American trend, although the constitution and the copyrights act [35] do not explicitly define what/who the author is, the existing acts such as the US Copyright Act, under US Copyrights Bureau guidelines [36] , are adequate to deal with generative AI-created regulation, preferring to leave interpretation of each case for US judiciary, while rejecting expansion of copyrights scope to include non-human authors, and they were guided by the case of the monkey which took a set of photos that it lacks legal capacity to file a lawsuit under Copyrights Act [37].The United States is attempting to adopt a balanced approach that combines intellectual

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28 Information Technology Industry Development Agency. (2019). Itida.gov.eg. https://itida.gov.eg/Arabic/Pages/about-itida.aspx

29 Law No.15 of 2004 regulating electronic signature and establishing the Information Technology Industry Development Authority. (2025). Wipo.int. https://www.wipo.int/wipolex/ar/legislation/details/13546

30 *The Digital Millennium Copyright Act Enters a New Era*. (2024). Penn Libraries. https://www.library.upenn.edu/news/dmca-update

31 Farcon, J. F. (2024). Attribution Or Attrition? Doe 1 V. Github, Inc. As A Case For A Robust, Horizontal, Moral Right Of Attribution In Gen AI. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4946503

32 *Artificial Intelligence (AI) guidance updates Nalini Mummalaneni Senior Legal Advisor Office of Patent Legal Administration*. (2024). https://www.uspto.gov/sites/default/files/documents/business-methods-ai-guidance-sept-2024.pdf

33 Office, U. S. C. (2025, January 29). *NewsNet Issue 1060 | U.S. Copyright Office*. Copyright.gov. https://www.copyright.gov/newsnet/2025/1060.html

34 European Commission. (2023, January 26). *A European approach to Artificial intelligence | Shaping Europe's digital future*. Digital-Strategy.ec.europa.eu; European Commission. https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence

35 *17 USC 102: Subject matter of copyright: In general*. (n.d.). Uscode.house.gov. https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title17-section102&num=0&edition=prelim

36 Mahan, S. T. (2025, March 3). *U.S. Copyright Office Releases New Guidance on Copyrightability and Artificial Intelligence*. Lexology; Quinn IP Law. https://www.lexology.com/library/detail.aspx?g=994926b2-8521-47c7-967f-cff69b4d28b4

37 Guadamuz, A. (2018). *Can the monkey selfie case teach us anything about copyright law?* Wipo.int.

property rights protection and supporting innovation in artificial intelligence through linking the issue of judicial protection to human contributions, while maintaining flexibility in judicial interpretation.

13. Existing legal challenges in digital licensing agreements:

The conventional digital licensing agreements consist of many legal challenges, most significant of them is that they contain vague contractual terms that are unfair to consumer/ user rights. Moreover, most of them tend to protect the service provider against accountability to the extent of evading liability in case of violations, thus there is no sufficient clarification over who is held accountable in case of errors or infringements. Moreover, there are still difficulties regarding how to apply intellectual property acts to the global digital content [38, 39].

14. The challenges posed by Generative AI to existing agreements:

Due to emergence of artificial intelligence, legal challenges to the conventional digital licensing agreements have increased,[40] such as the scope of using licensing agreements, ownership of the AI-created data and outputs as well as the derived works. Are they regarded a property of the user, the developer, or rights holders of the data used in training the Generative AI. Using the data that may be protected under privacy acts in training AI raises issues against acts like the GDPR Act, and at the same time, the same issues are raised by the issue of the user's consent to let his/her sensitive data be used, leading to set the scope of liability for the errors caused by the Generative AI potential decisions [41].

Although some aspects of the AI technology are protected by Patents Act, and other aspects are protected by Commercial Secrets Act, the US Acts in general and the Copyrights Act in particular require human creativity in the generative AI-created work in order for it to be legally protected. It is not very different in the Egyptian acts that were basically enacted to protect man-creative works, and since the intellectual property acts do not keep up with the technological developments of the Generative AI, digital licensing agreements can help regulate using the Generative AI-created content among parties. Given the complications posed by AI technologies to the issue of intellectual property rights, some terms in these agreements have to be redefined in line with these developments. However, it is important to know that redefining the digital licensing agreements to keep pace with using the Generative AI-created content is not as easy as when the traditional licenses were drafted before, due to the stunning and rapid development of these technologies, yet, I believe that setting these changes to regulate those technologies, even if they are not complete, is better than leaving them unregulated, so one of the significant issues that needs to be redefined, to keep pace with AI technological developments, and poses a challenge that has to be handled, is the issue of ownership of the content used to train Generative AI systems [42 , 43]. Some of this data are legally protected and some are not, so some legally protected materials might be violated should they are used in training without getting their owners' permission, in addition to the issue of ownership of the outputs, is the AI system itself regarded the owner, or is it the programmer, or the user? Scope of the principle of fair use of the content used in training AI systems has to be also set, and it has to be decided if the open-source data are sufficient or not, [44] as it is a principle which uses copyrighted materials, without getting a permission, in a specific framework for certain purposes such as teaching, news and research. Therefore, defining what is fair use and what is not in this context will be extremely difficult given the inability to separate human inputs from that of AI when creating a content. The issue of the copy and original content should be also addressed, as intellectual property acts protect expression of an idea not the idea itself. In the digital environment, it is difficult to separate the original copy from the digital one, and the challenge posed by the liability created by any violation or by the generative artificial intelligence cannot be ignored. I say that redefining licensing agreements is by no means an

https://www.wipo.int/ar/web/wipo-magazine/articles/can-the-monkey-selfie-case-teach-us-anything-about-copyright-law-40287

[38] Rastogi, M., Rastogi, V., Durgendra, M., & Rajpoot, S. (2024). Intellectual Property Challenges in Cross-Border Business Transations. *IJFMR240322079*, *6*(3). https://www.ijfmr.com/papers/2024/3/22079.pdf

[39] *How might standard contract terms help unlock responsible AI data sharing? - OECD.AI*. (2025). Oecd.ai. https://oecd.ai/en/wonk/standard-contract-terms-responsible-ai-data-sharing

[40] Ibid.

[41] Klosek, K. (2025, February 28). *AI Is Reigniting Decades-Old Questions Over Digital Rights, but Fair Use Prevails — Association of Research Libraries*. Association of Research Libraries; ARL. https://www.arl.org/blog/ai-is-reigniting-decades-old-questions-over-digital-rights-but-fair-use-prevails/

[42] Heller, B. (2025, February 17). *By Brian Heller As artificial intelligence (AI) continues to revolutionize industries, businesses are increasingly entering into contracts for the licensing, subscription, or use of AI tools. These contracts can be complex, and understanding the key issues is crucial to protecting your business inte. Linkedin.com. https://www.linkedin.com/pulse/top-16-issues-ai-contracts-licensing-subscribing-use-tools-heller-uy1ce/*

43 Generative AI Navigating Intellectual Property IP and Frontier Technologies Factsheet." 2024 . Op. Cit.,.

44 Tang, H. (2023). On the Copyright of Content Generated by Artificial Intelligence. SHS Web of .Conferences, 178, 01019–01019 https://doi.org/10.1051/shsconf/202317801019

easy task and cannot work unless it is accompanied with solutions to the same challenges the intellectual property acts face, as the digital licensing agreements alone will not manage to regulate the content away from legal and technical regulation, particularly in light of the rapid development of AI technologies.

15. Intellectual property rights of the Generative AI-created content:

The Generative AI technologies have posed difficulties over estimating the extent to which the content created by these technologies is protected by intellectual property rights. Should the owner is defined, this will help know the extent to which the content is legally protected, but we have to remember first what the copyrights are. Property of copyrights are usually attributed to the content creator if the latter alone created it, and they are attributed to two or more creators if more than one individual took part in the work, and they, therefore, share the copyrights of that work. Should a creative work is created for a fee, its property, under US Copyrights Act, is attributed to the person who paid and for whom the work was created [45]. This legal concept, when it was legally stated, meant that man is the author, meaning that the existing acts of intellectual property rights were enacted before emergence of modern technologies of AI which has become able to author a content of a quality not less than that authored by humans. Therefore, the concept of authorship, property attribution, who owns copyrights of the AI-created content, and other inquiries are regarded some of the thorny issues of the conventional concept of basis of the intellectual property acts, as the two criteria of originality of content attributed to a human being and novelty of work are available, and these two elements are essential for it to be legally protected. In the same context, and in line with to what the US Copyrights Act which requires, in order for works to be legally protected, that man must be their creator, as under that Act, innovation can be created by man only (US Copyrights Act of 1976) [46] and it was amended on December 23, 2002 Berne agreement [47] for protecting literary and artistic works that was approved in 1886 and amended on September 25, 1979 also allows innovators such as authors and musicians to control use of their works and whom use them according to any conditions [48].The Egyptian Intellectual Property Act No. 82 of 2002, amended under Act No. 178 for the year 2020 states in article No.04 that " Natural and legal persons only, either Egyptians or foreigners, have the right to file an application for a patent at Egypt Patents Bureau." In my point of view, the assumption where AI can be regarded an entity like a legal person, in order for it to be regarded an author or inventor and thus the content it creates can be legally protected, will not work, given that the legal person is a virtual entity which needs to be expressed by the will of a natural person who makes the appropriate decisions in the name and for the account of the legal person. This is totally different for artificial intelligence, as although it can make decisions and carry out tasks that excel human beings, it still lacks awareness and perception that produce the free conscious will from which creativity and the works characterized with humanity stem from, and this what artificial intelligence lacks as it was programmed and trained since its inception to carry out these tasks and be independent. In the same context, it cannot be said that it can be regarded as its user's representative, given that essence of representation means that the representative's will replaces that of the principal, and that the legal effect of that will is referred to the principal (the user), therefore , should we assume that the Generative AI has got a sophisticated ability to get independent from its programmers, representation, under conventional acts, will require the agent's (AI) consent to act on behalf of its user/programmer. Artificial intelligence has no independent will, rather it was previously programmed to perform all tasks, even if it gets independent under the huge amount of training data of machine learning because it is basically programmed for this development, thus it still lacks consciousness and perception that characterize human beings, making it understandable to reject granting legal protection to AI-created works. The existing national and global acts also agree that legal protection is granted to the original works installed on a tangible materialImedium, and this what was confirmed by US Supreme Court, in the case of **Feist Publications, Inc. v. Rural Telephone Service Co. Inc** [49], that in order for originality to be recognized, a work must be made by the author him/herself and not be a copy of another work, and must be at a level of creativity .This was also upheld by the European Justice Court, in the

[45] *Search the Resource ID numbers in blue on Westlaw for more. Expert Q&A on Artificial Intelligence (AI) Licensing An expert Q&A with Rebecca Eisner of Mayer Brown LLP on artificial intelligence (AI) licensing. The Q&A addresses AI in general and key issues that arise in AI license agreements for providers and users, including intellectual property (IP) ownership and infringement, warranties, and legal compliance. WHAT ARE SOME OF THE KEY CHALLENGES REGARDING THE USE OF AI?* (n.d.). https://www.mayerbrown.com/-/media/files/news/2019/01/expert-qanda-on-artificial-intelligence-ai-licensing-w0219801.pdf

[46] U.S. Copyright Office. (2022). *Copyright Law of the United States | U.S. Copyright Office*. Copyright.gov. https://www.copyright.gov/title17/

[47] WIPO. (2019). *Berne Convention for the Protection of Literary and Artistic Works*. Wipo.int. https://www.wipo.int/treaties/en/ip/berne/

[48]Law No.82 of 2002 promulgating the Intellectual Property Rights Protection Law بية (2020). Wipo.int. https://www.wipo.int/wipolex/ar/legislation/details/22066

[49] *Feist Pubs., Inc. v. Rural Tel. Svc. Co., Inc., 499 U.S. 340 (1991)*. (1991, March 27). Justia Law. https://supreme.justia.com/cases/federal/us/499/340/

case of **Infopaq Int'l A/S v. Danske Dagbaldes Forening** of 2009, [50] which asserted that originality is manifested only by the author's intellectual creativity which reflects his/her personality. When we look at the AI-created content, we find that it was generated by a huge amount of data which previously existed and used to train it, thus there is a doubt about that content's level of originality. In fact, distinction between origin and copy has been difficult to be conducted since internet became popular among the public in 1990s, and this difficulty has been renewed in the Generative AI era, as rights holders claim that the Generative AI violates their intellectual rights, and in contrast, developers refute that claim asserting that AI does not use the data itself, as they do not copy it, rather they analyze the basics, patterns and structure, and this is not a literal copying to express these basics, which is regarded a violation under copyrights acts. Therefore, it is important to redefine the concept of origin and copy, and I do not claim that this task is easy to implement, on the contrary, this distinction will require time, technologies and cooperation among all sectors, particularly jurists, technicians and innovators, as well as expanding the base of existing laws to achieve the desired change. The trend which tends to regard the Generative AI an inventor is still being considered by the European Patents Bureau, as the Bureau refused to grant patents to an artificial intelligence in the case of DABUS [51], and based this on that the European Patents Agreement requires that man must be the one who applies for a patent not the technical system, given that these technologies lack the legal capacity. Therefore, the conventional laws, under this concept, cannot measure creativity in the AI-created works, as recognition of AI role as a creator is fully non-existent and its outputs are attributed to the pure human creativity, so, it will be better to start expanding the concept of creativity and realize that it can be shared by man and machine, thus rights are granted to man who programs, so that, for instance, he sets inputs and outputs, and rights can also be divided between developers and users. Therefore. It is important to redefine the concept of creativity provided adopting a concept that is wider than the one adopted by the conventional laws, and that jurists, technicians, developers, and rights holders cooperate to reach broader concepts of creativity.

There is another trend believes that programmers of Generative AI have the right to request property rights for AI content, given that programming is a type of human production, therefore, developers have the right to have AI outputs legally protected. This opinion returns us back to the issue of the data used in training, are they copyrighted or not? In the same context, lawsuits were filed against OpenAI, GitHub, and Microsoft [52], accusing these companies of using open-source programming codes from platforms such as GitHub to train AI systems, thus violating the licenses of these platforms. The artificial intelligence also produced codes similar to human programmers' works without referring to the original source. Programmers argued that companies had violated copyrights through using their works in AI training by using the open-source codes, as there are licenses require disclosing the source or ban commercial use, and given that the artificial intelligence reproduces works derived from the original codes, this would constitute a literary theft even if they did not literally copy the codes. The companies in their turn defended themselves and based on the principle of fair use and the code nature, as fair use, under copyrights, allows using protected works for purposes such as research and innovation without getting a license, particularly when something that is new and different from the origin is produced. The open codes were existed to be generally used, and the artificial intelligence does not copy the codes, rather it analyzes them to create completely new ideas, thus violation is ruled out.

Argument here embodies the existing dissonance between promoting innovation and the intellectual property rights laws over regulating the AI-created content. Apart from the technical pretexts used by the companies ,which use artificial intelligence, to defend that they do not directly copy the digital content used in training, and that they use them under the principle of fair use or the open-source licenses, another issue regarding licensing the data used in training artificial intelligence emerges, as the proponents of the trend that rejects licensing the data argue that the licensed data used in AI training are often biased, thus, using them in training might transmit bias into AI outputs [53], therefore, should it learns from data that were written in an era when there was a discrimination against certain categories of people, its outputs will have the same level of discrimination. This shows that the conventional digital licensing agreements are not

[50] *EUR-Lex - 62008CJ0005 - EN - EUR-Lex*. (n.d.). Eur-Lex.europa.eu. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:62008CJ0005

[51] *EPO publishes grounds for its decision to refuse two patent applications naming a machine as inventor | Epo.org*. (n.d.). Www.epo.org. https://www.epo.org/en/news-events/news/epo-publishes-grounds-its-decision-refuse-two-patent-applications-naming-machine

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[53] Ho, J. Q. H., Hartanto, A., Koh, A., & Majeed, N. M. (2025). Gender Biases within Artificial Intelligence and ChatGPT: Evidence, Sources of Biases and Solutions. *Computers in Human Behavior: Artificial Humans*, 100145. https://doi.org/10.1016/j.chbah.2025.100145

keeping up with ensuring transparency, as they are unable to keep up with the issues of defining the contributors in creating the content using the artificial intelligence such as, rights holders of the data used in training, developers of AI technologies, or the user. This is why there is a dire need to keep pace with that development through redefining some terms, in the conventional digital licensing agreements, which might oblige the concerned to disclose sources of the data used in training, in addition to introducing terms that distribute liability to prevent transmission of bias as well as vagueness of the mechanism of using the fair use principle or what the derived content is, in regard of AI technologies which need a huge number of data.

Although it may be difficult now to implement all these amendments, but in the future we can resort to technology to help distinguish the legally protected content from the unprotected one. As licensing agreements of that content might be violated, it is important to redefine the digital licensing agreements to achieve balance between promoting innovation on one hand and protecting rights of holders of intellectual property of the content used in training on the other hand, as well as protecting the new AI-created content. So, we are to review the concepts that should be considered in order to be redefined in the conventional digital licensing agreements as follows:

16. The concepts that should be redefined in the digital licensing agreements1[54]:

Approval: The existing digital licensing agreements require a full approval of all their terms without specifying approval of each term in the agreement separately [55], triggering doubts about seriousness of that approval and understanding all terms, a matter that should be avoided when dealing with artificial intelligence, i.e. rights holders must approve a term that includes using their intellectual rights in the data used in training artificial intelligence, instead of approving the entire licensing agreement without details.

Using copyrighted data by AI without a clearance: A term, that protects rights of stakeholders against copying the protected data without a license, should be introduced into the digital licensing agreements, in addition to imposing financial compensation on the companies which use artificial intelligence to copy and use this data in training without getting a license [56].

Scope of using the personal data protected under Privacy Acts1[57]: The principle of fair use is still a loose and unspecified concept regarding using personal data by artificial intelligence to create a new content, leading to violating privacy acts. A term, that shows how, where, and the purpose of using that data by the Generative AI or preventing it from using them under privacy acts through setting technologies of prevention, should be added.

Scope of fair use and the derived content: Developers prefer to explain their use of Generative AI to create a content within the area of fair use of data in order to be safe from claims of violating copyrights. Although it looks easy in theory, it is extremely difficult in practice, given concerns that it might be widely applied, leading to violating rights of innovators [58].

Liability: Most digital licensing agreements include a disclaimer for service providers, leading to dissemination of a content harmful to humanity. Liability in digital licensing agreements might vary according to the platform it belongs to, as this depends on how the platform is used and whether it is accessed for free or for a fee, in addition to other considerations concerning development of the used technologies. Should the agreement between the platform owner and the ultimate user states that outputs are owned by the user, who will be liable for the errors that might be caused by the created content? Is it the ultimate user, the AI developer, or the service provider, particularly as AI uses learning data that may be within the legally protected privacy? Therefore, it is important that the digital licensing agreements should include terms allow users to control using their sensitive data in line with privacy laws. On the other hand, users should review the Generative AI-produced outputs precisely, in order not to enter potential disputes that may arise should the Generative AI uses learning data that is protected under intellectual property laws. This is in light of the trend which believes that outputs may be owned by the user given that he/she is the one who at first commands the Generative AI to generate those outputs, thus, he/she is the responsible [59]. This matter is still being discussed and has not been decided

[54] Azab, R. S. (2021). Interpreting digital licensing contracts between a metaphorical and functional direction: A comparative analytical study. *International Journal of ADVANCED and APPLIED SCIENCES*, *8*(8), 103–112. https://doi.org/10.21833/ijaas.2021.08.013

[55] Kim, N. S. (2010, March 29). *'Wrap Contracts and Privacy*. Ssrn.com. https://ssrn.com/abstract=1580111.

[56] Pasquale, F., & Sun, H. (2024). Consent and Compensation: Resolving Generative AI's Copyright Crisis. .*Social Science Research Network* https://doi.org/10.2139/ssrn.4826695

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[59] Kiernan, D. C., Kukkonen, C. A., Latta, R. T. S., Li, K., Myers, M. A., Paez, M. F., Tait, E. J., Tobitsch, K. N., & Diemar, von. (2023, August 3). *Generative AI End-*

yet, particularly in light of the rapid developments of Generative AI systems, and the extent to which they are independent in creating the content, particularly as the conventional framework is not adequate for the liability that result from things, the liability of the product, or the vocational liability. It would be better to insert terms in the agreement clarifying if the used data is legally protected, and the joint liability among the user, developer, and the platform owners would be a solution to prevent full dependence on AI decisions and abolishing the human will.

17. RESULTS AND RECOMMENDATIONS

1. The research revealed that the conventional licensing agreements are not adequate to keep up with the Generative AI developments, requiring redrafting the conventional digital licensing agreements and highlighting the detailed approval on how to use data in training and the impact of this on the intellectual property rights. The agreement can be activated through electronic signatures and the Block Chain technologies.
2. The study asserted importance of companies' role in using artificial intelligence in creating the digital content, and that clear terms, on how to use the Generative AI in developing the content like setting the rights of the user, rights holders of the intellectual property, and developers, simplifying terms of use to help users understand them, and ensuring protection of the personal data through technology, can be inserted.
3. There is an issue over expanding the term and scope of the fair use principle, which could lead to violate creators' rights. The proposal lies in restricting the scope of fair use, so that protected data is used only in line with what is legally allowed, and that it is not used for commercial purposes without a license.
4. The research concluded that it is important for users to be aware of the agreement terms before using it in order to know their liability when using the Generative AI-created content or when using one of the Generative AI technologies. It is better to adopt the joint liability among the developer, the platform, and the ultimate user should a harmful content emerges, and compensate the affected by the companies which use the Generative AI.
5. The research highlighted the importance of developing flexible legislations that protect intellectual property rights, and achieve balance in supporting innovation, as well as seeking assistance of technologies to tackle the potential violations through clear legal mechanisms.

18. CONCLUSION

Redefining the digital licensing agreements is not an easy task as it seems in theory, rather it is a hard mission needs to integrate of jurists and technicians' efforts, as it requires to research on whether it is enough to adapt the existing conventional concepts to accommodate the issues of modern technologies, or it needs new rules and adopting bold concepts to achieve balance between protecting rights and promoting innovation.

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