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The Copyright Protection of AI-Created works by the European Union Copyright Legislation

(RESEARCH)

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Contents

Abstract

In the European Union, copyright law has increasingly focused on broadening the scope of works that have a right to intellectual property protection. Currently, the law applies to a variety of work categories, including literary works, music, film, and sound recordings, among others. Although breakthroughs in artificial intelligence (AI) continue to contribute to the emergence of machine-generated creative works, the European Copyright Legislation framework does not consider non-human discoveries. There are currently breakthroughs that allow autonomous programs to create products of significant monetary worth ranging from software to literary works, photographs, and music.

To that end, this research study critically examines the current EU copyright legislation in order to understand its position on copyright protections for AI-generated works. Furthermore, the study explains why AI-generated works should be protected and what legal tools should be improved to provide copyright protection.

According to the findings, these creations should be protected as incentive to developers and as a guarantee of technological advancement for the entire society.

Keywords: (European Union, copyright law, artificial intelligence, European Copyright Legislation, copyright protection)

1. Introduction

The European Union's copyright law has increasingly focused on broadening the scope of works that have the right to intellectual property protection (Nielsen, 2020). Currently, the law applies to a variety of work types, including literary works, music, films, sound recordings, and others. Computer programming works, such as Artificial Intelligence (AI), are classified as literary works.

It is worth emphasizing that the intellectual property rights provided to artificial intelligence have caused plenty of legal, economic, and moral concerns. This is because AI technologies have been developed to work autonomously without the need for human intervention (Bøhler, 2017). In contrast, Section 1(a) of the CDPA states that any work that does not have a human author is ineligible for copyright protection. Section 178 of UK copyright law recognizes “computer-generated works, specifically those created in situations in which there is no involvement by a human author. Section nine (3) of the CDPA further stated that the person who arranged for the development of the works would be the author of the computer-generated works, therefore, there is a new legal structure in place that protects the copyright of creations made with artificial intelligence (Blair, 2019)

Furthermore, the European Union is aiming to be the most advanced region in terms of artificial intelligence. On April 25, 2018, the European

Commission issued a declaration outlining numerous steps targeted at strengthening the region's competitiveness using artificial intelligence. The committee acknowledged the problems of attempting to make AI work. It is, however, prepared to confront these difficulties, which began with an expenditure of at least 20 billion euros by the end of January 2020 to perform additional research to develop AI technology and applications and convince businesses to embrace them (Bøhler, 2017). This European Union development goal also necessitates legislative elucidation, as it has been found that the legislative environment has a detrimental effect on investments and social evolution (Guadamuz, 2020).

Protecting copyrights for inventions done using AI is a concern for the European Union, as several organizations in the region have expressly stated the need to address the legal ramifications of developing AI. However, the lack of clarity on copyright legislation for AI-generated works provides no incentive for developers to continue developing valuable AI systems. Furthermore, companies are unwilling to invest in such technology, thus the EU's competitiveness in the global market will be maintained solely by clarifying copyright legislation for works made by artificial intelligence (Nielsen, 2020).

The primary goal of this research is to determine if works made by artificial intelligence have been appropriately handled by EU copyright legislation and whether they require protection through division of

rights. Eventually, the research will find the best legal method to safeguard industries produced by artificial intelligence (Parliament, 2017). The study will employ the well-known legal doctrinal method to the structuring and interpretation of current legal information. The method also aims to justify the interpretation of existing law in respect to the subject matter of the research in order to assess whether works generated by artificial intelligence are eligible for protection under current European Union copyright rules. The goal is to find solutions by reading existing laws and case law. Furthermore, legal dates, copyright directives, legal law, academic papers, and international treaties will be examined to include more information on the European Union's originality and human author criteria.

1.1 Research Problem Statement & Questions

This part of research diagnoses the research problem and the main questions that will be answered through the theoretical framework of research:

1.1.1 Research Problem Statement

Artificial intelligence-powered businesses have evolved through time to the point where their creative processes require little or no human intervention. This puts copyright law, which protects human-made inventions, in jeopardy. Today, EU copyright law does not give direct

protection for AI-generated works, particularly when the production process is incapable of producing a human author (COUNCIL, 2009). As a result, in cases when AI systems have independently created artwork, the question of whether the type of new artwork should be protected arises.

Copyright protection is an intellectual property right that offers the creator of a work the exclusive right to determine whether another party may use his production and the terms of use in question. Creative individuals are permitted to exploit their work by selling, distributing, or licensing it to others. As a result, works created by artificial intelligence must be protected by copyright within statutory boundaries to avoid illicit types of copying or replication (A.M, 1950).

European Union copyright law is ambiguous when it comes to works made with artificial intelligence, which makes it difficult for creators to acquire adequate assessments of the value of their contributions in a digital context. This casts question on the feasibility of engaging in and developing new AI technology. Higher degrees of digitization, for example, through artificial intelligence, will result in increased focus.

Many creators have been perplexed as to whether copyright law can protect their creations and what conditions are tied to the protection. Because AI is not recognized as a legal entity under EU law, ownership of the work created cannot be claimed (Margoni e. , 2020). According to Professor Ole-Andreas Rognstad, such a situation raises the prospect of a "non-ownership scenario" for the works in question, which would fall

into the public domain. Because of the lack of copyright protection, developers have little incentive to produce AI-based software (ibid). This reduces technical growth and any associated areas, such as new businesses, and has a detrimental impact on pharmaceutical organizations and consumers, and many others (Gerald, 2019).

Directive 2009/24/EC stated that a computer program must be original in terms of being the author's individual intellectual creation in order to be protected (ibid). There are no other criteria that can be used to determine whether a person is protectable. As a result, work developed from a program that started from the creator's creative input can be protected by copyright. However, whether AI is always expanding, even by conducting self-learning to do independent work that does not require human input, remains a contentious subject in this perspective (commission, 2020).

The artificial intelligence does not require the creator of the initial computer program for the creative process at that time (lee, 2021). Furthermore, the AI will evolve and improve the work in such a way that it works, and the original computer program cannot be called original due to the minor association with the originator. Following that, a challenge was generated questioning the criteria for originality when granting copyrights to works developed by artificial intelligence (Sherry Yates, 2020).

Francis Gurry, Director General of the World Intellectual Property Organization, stated that artificial intelligence represents a new digital

front that will have a huge impact on the world (ibid). This is problematic when one includes the digitization of music composition or the fact that researchers will employ artificial intelligence in conjunction with 3D printers to produce or recreate items and artworks.

There is an obvious need for additional examination of European legislation, as it is unclear whether originality is the most beneficial criteria for works generated by artificial intelligence. As the digital environment evolves and new difficulties develop, it is possible that an enhanced version of intellectual property will be necessary to address them. Because current EU copyright law does not give any standards of protection, particularly those acceptable for these kinds of firms, it is time to look at new legal options (COUNCIL, 2009).

1.1.2 Research Questions

Readers and others interested in the copyright protection of AI-created works have many questions. As a result, the following are the study's questions, which clarify what this research attempts to answer:

1. Have EU copyright legislation effectively covered AI-generated works?
2. Should AI-generated works be allowed proper copyright protection and rights allocation in the EU?
3. Is there a legal tool that must be established to ensure that copyright protection rights for AI-generated works are granted within the EU?

1.2 Importance of the Research

This part of the research contains the theoretical and practical importance that are expected to benefit the readers:

Protection rights for AI-generated works are now a prominent concern that demands more thought. These research questions investigate the current state of copyright law in the European Union in terms of collaboratively or independently generated works. This study demonstrates that present copyright legislation was written without concern for artificial intelligence. As a result, implementing standard regulations to these enterprises creates confusion and unforeseen consequences in some cases.

This dilemma necessitates a conversation about the appropriateness of present solutions, as well as whether EU copyright legislation needs to be updated to effectively regulate AI-generated works. The European Parliament and the European Commission both recognize the need for a resolution to modify existing intellectual property rules to account for advances in artificial intelligence.

1.3 Research Objectives

This research mainly involves investigating the copyright protection of AI-created works by the European Union copyright legislation. While the primary goals of the research are as follows:

- Investigate if the EU copyright legislation have effectively covered AI-generated works.
- Justify if the AI-generated works should be allowed proper copyright protection and rights allocation in the EU.
- Clarify if there is a legal tool that must be established to ensure that copyright protection rights for AI-generated works are granted within the EU.

2. Review of the literature

This review of the literature provides a critical examination of the research arguments offered in many scholarly articles on the current study's topic. The chosen scholarly work sheds light on copyright protection in the European Union, namely copyright law. In addition, any comments made to fix any inadequacies in present legislation are being taken into account.

2.1 Have EU Copyright Legislation Effectively Covered AI-generated Works?

A substantial portion the copyright legislation of the European Union's member states is mainly based on human-centered factors. These include the author of the works being the beneficiary of protection, existing conditions of protection such as originality, and the giving of rights that are usually commercial or ethical (Sherry Yates, 2020).

The lack of moral rights legislation demonstrates the human-centered approach engaged in current copyright laws. The copyrights of copyrighted works are determined by the software instructions and database based on the natural individuals or groups of natural individuals who developed the works. According to Iglesias et al. (2009), the human method has also been used to establish authenticity. While European law has not offered sufficient clarity on the meaning of authenticity, various directives under EU law have linked quality to natural individuals or personal characteristics (ibid). The Re - sale Directive takes into account these individuals/artists, and the copyright term directive takes into account human traits/character. Furthermore, the Software and Database directives, as well as the Terminology directive, take into account the author's "intellectual inventiveness.'' (Cohen, 2016)

Through a succession of historic judgments in copyrighted business disputes, the European Union's Court of Justice has attempted to harmonize the subjective dimension. In these cases, the court states that the major factors for assessing whether or not a work should be copyrighted are "the author's intellectual inventiveness," "free creative choices," "personality of the creator," or "personal touch of the creator."

Artificial intelligence has gotten a lot of press lately, due to its applications in news generating, music composition, artwork creation, and text generation. Recent breakthroughs in artificial intelligence

approaches have enabled computers to work autonomously, reducing the need for humans to contribute to creative or innovative processes. However according Iglesias et al. (2019), certain countries, including the United Kingdom, South Africa, Hong Kong, and New Zealand, have implemented rules to offer copyright protection to an individual who has established the prerequisites for creating a work.

In the United Kingdom, computer-generated works are those produced by machines in conditions where no human author is present. It is vital to note that the regulations in the United Kingdom do not allow for the assignment of property to the programmer or the user Iglesia and colleagues. Continuing to underscore the scarcity of case law pertaining to copyright protection for works developed by artificial intelligence. Works can have a shorter protection period (50 years) than other copyrighted works, which have a protection period of 70 years. These Concerns have been raised in nations without explicit legislation concerning whether works made by AI truly receive copyright protection, and whether they will be recognized original and assign ownership to the correct owner.

As according Guadamuz (2017), the method adopted by the UK would handle the difficulty within the EU, and it was observed that refusing to extend copyright protection to AI-generated works could have serious financial consequences, notably in the field of databases. The UK approach has clear advantages, such as providing some level of predictability in a highly uncertain legal environment (ibid).

According to Guadamuz (2017), the system has already acquired global notoriety because it has been applied in many nations; the technique is confusing enough to divert querying and parsing the user/programmer binary on a case-by-case basis (ibid). However, opponents of the UK system have criticized it for being unsuitable for dealing with computer-generated commerce. The first issue is that the UK decision exaggerated the distinction between helped and unassisted productions. The second complaint is that the judgments provided the individual with such a big margin of uncertainty that the creative arrangements were designed specifically for highly complex systems.

The final objection is directed towards UK rules that do not address the issue of uniqueness. Another critique is that they do not address the difficulty of co-creation by humans and machines. Finally, there is the issue of whether the statute is in accordance with EU legislation.

2.2 Should AI-generated works be allowed proper copyright protection and rights allocation in the EU?

Other scholars, as Ramalho (2017), have suggested that incentives are required to build or commercialize AI-generated firms. While many supporters of this argument do not entirely support copyright protection for works created by artificial intelligence, they do recognize the necessity for alternate protection for these works.

Ramalho (2017) presented a solution that was consistent with the public domain model as well as “copyright,” and was strongly impacted by the

rights provided to publishers of original works in the copyright term directive (Jamali, 2017). In the United States, for example, Samuelson (2985) stated that ownership of computer-generated works should be assigned to users. Bridy (2016) and Pearlman (2018), for example, have pushed for the applicability of work vs. employment to AI systems.

Ginsburg (2018) proposed granting a private right or a neighboring right that considers valuation (ibid). If the establishment of a new right is demonstrated, the impact must be extracted from industrial property rights other than copyright, and the authentication process must be completed.

Some scholars, on the other hand, have claimed that there is no actual evidence to justify the need for property rights for AI-generated systems. According to Margoni (2018), works made with AI should be exempt from intellectual property rights and placed in the public domain.

Significantly, when deciding whether to extend copyright protection to AI-generated works, there are clear consequences for deciding whether to grant copyright protection to works (COUNCIL, 2009). Distinguishing between works created by persons and systems created by AI is difficult, even when attempting to deny the latter copyright protection. Even if protection is provided on the basis of a separate right, this challenge persists (Sherry Yates, 2020)

On the other hand, the protection will result in a considerable increase in the number of protected works and a concentration of copyright in a

limited number of corporations. Whereas protection can lead to the employment of the business concept as a tool, raising the cost of access to various firms.

Additionally, Lauber-Ronsberg (2019) shares similar worries that giving copyright protection to AI-created works will fundamentally alter the concepts of copyright law and the underlying legislative structure. The researcher admits that developing an ad hoc right may be a preferable approach for coping with AI's uncertainty. Nevertheless, it is concerned about the standards for the provided protection as well as the allocation of related rights.

Another problem is the required or voluntary shutdown of the use of AI in a certain industry or linked business, which might offer a considerable implementation challenge. According to Perry and Morgan (2010), there is a concern with the ongoing degradation of the public sphere, however Schonberg (2018) claims that if AI-generated works are treated similarly, the incentives of human authors will be erased (Guadamuz, 2017)

2.3 Is there a legal tool that must be established to ensure that copyright protection rights for AI-generated works are granted within the EU?

According to Ciani (2019), even with appropriate legal arrangements regarding copyright protection for works created by AI, there are still

legal laws that control this subject. Due to a lack of legal procedures, relevant parties must first identify the authors of AI-generated works.

Cohen (2016) asserted that there are concerns because regulations are thought to cover scenarios, especially throughout the final process as an autonomous product. Furthermore, there is disagreement regarding what provisions actually intended, their makers, how closely the creators and their arrangements came to the created work, and the legal approach if the works made throughout the creative process had numerous participants.

It is clear that much is dependent on the court's interpretations.

Importantly, Ciani (2019) claimed that they were satisfied that the clauses did not allow for AI-generated works due to the absence of an author as needed by Copyright law. The researchers, on the other hand, have constructed a legal fiction of authorship, which indicates that the copyright is vested in someone who is not the author-in-fact.

Copyright vesting in someone other than the authors is one of the legal considerations. Now, the common law system has not objected to the assignment of copyright to individuals who are not creators. Copyright law, for example, allows it to safeguard the rights of interested experts other than the author. For example, consider the case of phonogram makers for broadcasters (Margoni e. , 2020).

Because of the important institutions that rely heavily on the ‘intellectual' link, the Latin-Germanic copyright system is already having

to deal with this tactic (ibid). As a result, determining authorship for AI systems may include challenges to the traditional notion of authorship (Lauri, 1997). According to some critics, this point of view has been abandoned. Since the implementation of Directive 2001/29, European copyright law has changed its focus to the protection of producers, investors, and those who contribute to compositions commercially and monetarily rather than creatively (lee, 2021).

The shift in focus is consistent with the information society environment, which includes both an increasing disconnection between those engaged in creative endeavors and those providing the funding, as well as the author's personality's minor role in the creative work (Bridy, 2016). There is also the 'multiplayer model,' which offers descriptions to different stakeholders during the AI creation process. This model also demonstrates that old copyright law's efforts to identify a single author were becoming inadequate and antiquated (Margoni T. , 2018).

Another technique for getting around the author-in-fact requirement is to use the work-for-hire theory. There is already legal fiction in copyright law that grants exclusive rights to subjects who are not the authors of original efforts. The work-for-hire doctrine is one example, in which an employer of individuals who had work prepared for them is regarded the copyright owners due to their economic oppression of the work created for hiring purposes (Ramalho, 2017).

The theory has already been used to grant economic exploitation rights to publishers of collective works and output of cinematographic works, even if the author was the editor or the person in charge of production organization. Because it is a depiction of a current process of directly giving copyright to a legal human who is not the author-in-fact, this could be deemed a suitable foundation for dealing with the difficulty of AI authorship (Gerald, 2019).

In the case of AI-generated works, their application would occur for a similar cultural purpose as the initial introduction, which is to offer an economic benefit as an incentive to the party that directly engaged in the development of exclusive works. Giving programmers and owners of AI systems exclusive rights could be a significant incentive for furthering the AI industry's development (Pearlman, 2018).

AI-generated works may also be granted neighboring or sui generis right-type protection. This logic, according to Ciani (2019), is incompatible with copyright law, even if it implies providing copyright as a means of rewarding authorship. Pearlman (2018) confirmed, nevertheless, authorship is not regarded as the most important aspect of AI-generated works. Rather, the acceptable justification is to offer the writers exclusive rights in order to protect their investments.

This justification demonstrates why copyright may not be the appropriate legal framework for safeguarding AI-generated works. Notably, other legal measures that could be implemented in EU states

include the sui generis right for database preservation and the sui generis right to favor producers and broadcasters (Thomas, 2016).

Throughout times, the EU's regimes have tried to protect various types of investments. Nonetheless, Ciani (2019) proposes trying to introduce the adjacent right-type of protection for AI-created works because it would take better account of the type of creativity that happens and would be more similar to previous legislation and government judgment fully integrated by member states in this field (ibid).

This is preferable than adapting copyright characteristics to the specific demands of AI. This recommended method would also be consistent with the Recital 5 Directive 2001/29/EC, which specifies that no new concepts are necessary to preserve intellectual property (Lukosevician, 2009).

As a result, current copyright rules, as well as any related rights, should be updated and expanded to respond effectively to economic circumstances. After a thorough understanding of the many automation degrees that could characterize the field of computer-generated creativity, the new right is to be customized in full knowledge of the present and prospective future of AI technologies (Sherry Yates, 2020).

Eventually, several academics have investigated the question of copyright protection concerning AI-generated works within the EU. EU copyright law and judicial interpretations have been constantly amended to determine the optimum manner to offer copyright protection. It is clear

that the United Kingdom has made tremendous efforts to ensure that works are copyright protected (Bøhler, 2017).

Yet, these provisions are not without criticism. Furthermore, it is clear that many researchers feel that copyright protection for AI-generated works is essential to give an incentive and support growth in this area. Because of their unique character, traditional copyright regulations cannot be applied to these works (Guadamuz, 2017)

As a result, experts anticipate stakeholders investigating the incorporation of relevant legal tools to cover a broader spectrum of activities. The adjacent or sui generis right-type is a legal technique that has gained widespread acceptance as a successful strategy. EU copyright law could be used to grant rights to AI-generated works (Bøhler, 2017).

3. Research Methodology

The legal dogmatic approach was used in the current study's research technique. This method relies on the analysis and systematization of the material within the current legal framework. Furthermore, the methodology seeks to provide strong explanations for present EU copyright law interpretations. This approach will aid in answering the thesis's two primary research questions, which are whether current EU copyright legislation has sufficiently surveyed copyright protection for AI-generated works and whether AI-generated works should obtain copyright protection and be assigned the appropriate rights. The primary

goal is to arrive at proper replies after interpreting current law and case law.

The **"de lege ferenda"** analysis will be included into the research with the goal of suggesting legislative amendments to EU copyright law and ensuring AI-generated works are protected. To that end, the analysis will include an interpretation of the law as well as recommendations for suitable legislative changes. Moreover, the legal history of copyright law will be explored to better comprehend the demand for originality and human authorship.

Since primary goal of this thesis is to discuss EU copyright law, the primary legal sources to be used are the EU Copyright Directives and case law reviewed by the CJEU. In addition, international treaties and other official documents presented in the EU will be used as source material. Furthermore, legal laws and case law emanating from national courts will be evaluated from other laws in order to broaden comprehension of the research topic and evaluate the responses to similar issues adopted by other laws. Academic articles and other sources are crucial aspects in this research since they will supply considerable information that can help answering the specified research questions.

4. Research Structure

This first chapter will introduce the reader to AI-generated works, specifically in the context of EU copyright legislation. The second chapter will present the literature review for the study, which will delve into previous scholarly studies that have explored EU copyright legislation. The study will also consider the underlying rationale used in awarding copyright protection rights, as well as academic opinions on whether the EU has incorporated AI-generated works in its justification.

Furthermore, the review will investigate any suggested legal mechanisms that could be utilized to assign the rights for these respective works, as well as examine the research methodology used in the current study. The third chapter will provide in-depth answers to all of the research questions. The fourth chapter will wrap up the thesis, answering the research questions and making proposals that could be integrated into EU copyright policy.

5. Conclusion & Research Recommendations

In conclusion, the world is clearly changing, and this can be seen in the creative processes. AI research and allied technologies have been able to generate intelligent neural network algorithms from predictable computer programs for over seven decades. With greater sophistication and complexities, AI systems are now capable of producing a wide range

of creative works, many of which require little or no human intervention. Yet, copyright protection rights are hampering these advancements.

This is because many nations still rely on old copyright legislation when providing copyright protection rights. As demonstrated by EU copyright law, the regulations have taken a human perspective, requiring that any work protected be associated with a human being. As a result, an examination of present EU laws has clearly revealed a lack of proper coverage of AI-created works inside the respective statute. It is logical that the laws were not written with artificial intelligence in mind.

Nevertheless, it is past time for participants to look at revising the Act to ensure that it includes AI-generated creations that demand significant investments and provide comparable advantages to human-generated works.

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