COPYRIGHT ISSUE IN ARTIFICIAL INTELLIGENCE APPLICATIONS OF SMART PRODUCTION AND AUTONOMOUS SYSTEMS

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Abstract

Background: *In recent years, the use of artificial intelligence in the field of production and design has increased. As a result, in smart production and autonomous systems, the concepts of copyright and rights ownership on the works produced have become increasingly complex. In addition, there is no sufficient legal regulation regarding the rights of the software side of the system, the content providers and the commercial parties with whom they have agreements, in the productions made by autonomous systems through artificial intelligence software. In addition to the ownership of the work, the copyright of the elements in the content of the work and those who produce these elements also emerge as an important problem in productions made with artificial intelligence.*

Purpose of Study: *In this study, it is aimed to examine the copyright issue in artificial intelligence applications of smart production and autonomous systems.*

Sources of Evidence: *In the research, a literature review was conducted and semiotic analysis and content analysis were conducted based on academic studies. According to the results obtained, analyzes were made regarding the deficiencies in copyright and the main*

problems arising from field applications in smart production and autonomous systems made through artificial intelligence.

Main Argument: *The main argument of the research is that copyright is an important problem in both the short and long term in smart production and autonomous systems produced through artificial intelligence.*

Conclusions: *Although DSM Directive 2019/790/EU, which was issued in 2016 and came into force in 2019, regulates digital copyrights, there are serious deficiencies regarding the ownership of the system or work and the legal regulations regarding smart productions and autonomous systems produced through artificial intelligence. While DSM Directive 2019/790/EU targets a uniform digital market, the copyright issue in artificial intelligence applications shows that this regulation is also inadequate. Regarding the AI Act, there is not yet sufficient regulation or implementation data regarding copyrights. The United States Copyright Office published in 2023 points out similar deficiencies in artificial intelligence and copyrights. Existing copyright regulations are insufficient today, especially for smart products produced by autonomous systems. One of the most important sources of the problem is that the work, its ownership, the types of work, and the commercial and moral values of the work are not fully defined. For a solution, comprehensive and advanced studies are needed regarding the copyrights of artificial intelligence.*

Keywords

Copyrights, Artificial Intelligence, Artificial Productions.

1. Background

Artificial intelligence is the term that refers to applications in which codes or programs written through certain algorithms in a computer environment act almost like a human mind and perform assigned tasks (Alparslan, 2023; Alparslan, 2023a; Hunt, 2014; Russell and Norvig, 2010). Since artificial intelligence applications have just entered daily life and technology, there is no agreed upon definition or theoretical framework in the literature. However, artificial intelligence and its usage areas and the number of scientific studies on them are increasing day by day. At this stage, many different legal practices and issues come to the fore.

In artificial intelligence applications, there is not only the production of an idea or a work of art with the commands given, but also programs that produce autonomously themselves. When designing in the old system, the designer gave certain codes and tasks to the computer program and ultimately received the design or product (Ertel, 2018; Flasinski,

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2016; Ginsberg, 2012). However, in artificial intelligence, the design or digital product itself acts as a designer (Kieslich et al, 2022; Verganti et al, 2020; Quan et al, 2019; Pham, 2012). This situation leads to the inadequacy of classical legal approaches to the issue of authorship in the works produced and the need to develop new arguments with further regulations.

Autonomous systems, in their most general definition, are the whole of software and mechanical systems that perform any task or operation. Although artificial intelligence production mostly includes products that take place in a digital environment, today hybrid artificial intelligence applications and mechanical systems are combined and autonomous systems and artificial intelligence are integrated (Radanliev and De Roure, 2023; Rault and Trentesaux, 2018). At this point, autonomous systems create compiled or processed works within the framework of the law of intellectual and artistic works. In compilation or processed works, although the owner of the work has transferred the commercial rights of the work to a party or parties within the framework of the contract, the right to share and display the work remains constant. It is possible to say that there is not enough regulation or work on this situation in autonomous systems.

Due to the increasing use of artificial intelligence in the field of production and design in recent years, the concepts of copyright and rights ownership over the works produced in smart production and autonomous systems have become increasingly complex (Matthews et al, 2021; Chesterman, 2020). In addition, there is no sufficient legal regulation regarding the rights of the software side of the system, the content providers and the commercial parties with whom they have agreements, in the productions made by autonomous systems through artificial intelligence software. In addition to the ownership of the work, the copyright of the elements in the content of the work and those who produce these elements also emerge as an important problem in productions made with artificial intelligence.

2. Methods

2.1. Purpose of Study

In this study, it is aimed to examine the copyright issue in artificial intelligence applications of smart production and autonomous systems. In this way, the research aims to provide a basis for further research and field applications by discussing authorship, copyrights and legal regulations of smart products, which are described as the result of artificial intelligence and autonomous production.

2.2. Sources of Evidence

In the research, a literature review was conducted and semiotic analysis and content analysis were conducted based on academic studies. According to the results obtained, analyzes were made regarding the deficiencies in copyright and the main problems arising from field applications in smart production and autonomous systems made through artificial intelligence. Research analyzes were designed on semiotic analysis and content analysis methods. In this design, the researcher describes the subject with comprehensive descriptive data within the framework of data on the relevant subject, without resorting to any intervention or controlled experiments. In inferential analysis, the researcher reveals a phenomenon or concept qualitatively, based on phenomenal information, using the relational inference method (Cohen et al, 2001). In this context, the research analyzed the adequacy of the existing literature and legal regulations regarding the legal status of autonomous and smart production, which is artificial intelligence production.

2.3. Main Argument

The main argument of the research is that copyright is an important problem in both the short and long term in smart production and autonomous systems produced through artificial intelligence. For this purpose, firstly the ownership of the work, then the boundaries and nature of the ownership of the work must be redefined legally and conceptually. In fact, the research basically qualitatively analyzed the hypothesis that current legal regulations will be insufficient for the production of artificial intelligence.

3. Conclusion

Although there is no adequate and comprehensive regulation regarding copyrights regarding artificial intelligence productions today, the most current regulation regarding artificial intelligence is the AI Act. On the other hand, the issue of copyright has been a digital issue that has been emphasized on the international platform for many years. As part of the Digital Single Market Strategy, the EU Commission prepared a package in 2016 to modernize copyrights in the EU and shared it with the public. The Copyright in the Digital Single Market (DSM) Directive (DSM Directive 2019/790/EU) included in the package entered into force on 7.6.2019.

In its report on artificial intelligence and copyrights published in 2023, the United States Copyright Office reported that artificial intelligence productions were examined within the framework of existing copyrights and comments were evaluated, but there were

some inadequacies regarding copyrights related to artificial intelligence. The main shortcomings are the issues of commercial rights, especially the ownership of works and the publication of the productions produced.

According to the results of the research, although DSM Directive 2019/790/EU, which was issued in 2016 and came into force in 2019, regulates digital copyrights, in smart productions and autonomous systems produced through artificial intelligence, there are issues regarding ownership of the system or work and legal regulations regarding this. There are serious shortcomings. While DSM Directive 2019/790/EU targets a uniform digital market, the copyright issue in artificial intelligence applications shows that this regulation is also inadequate. Regarding the AI Act, there is not yet sufficient regulation or implementation data regarding copyrights (Hristov, 2016). As Palace (2019) stated, If copyright ownership were to be assigned to artificial intelligence, this would result in nonhuman status and needless ambiguity in the legal system. Additionally, this would result in lost incentives, which goes against the objectives of the Constitution's Patent and Copyright Clause. Existing copyright regulations are insufficient today, especially for smart products produced by autonomous systems. One of the most important sources of the problem is that the work, its ownership, the types of work, and the commercial and moral values of the work are not fully defined.

For a solution, comprehensive and advanced studies are needed regarding the copyrights of artificial intelligence, autonomous systems produced by artificial intelligence, the works produced by these systems and the elements they contain. For this, first of all, it is necessary to reconsider and rearrange the concept of authorship, especially the compilation and processing of works in the classical legal notion.

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