Copyright and Artificial Intelligence (AI): Changes in European Case Law and Economic Implications

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Abstract

This paper analyzes how European legislation and case law address the protection of works generated by AI. The topic explores a hypothetical legal universe in which AI could acquire a copyright, transferable to natural persons, involving ethical, economic and legal debates. The objective of this paper is to identify the potential legal and economic benefits and challenges of such a regulation in a contemporary technologically evolving society and what advantages or disadvantages it would bring to European business law, particularly in the context of an expanding digital single market.

Keywords: *Copyright, Artificial Intelligence, Digital market, modernization, adaptation.*

I. Introductory Aspects

The development of the Internet has brought the transformation of society into an informational society and the emergence of globalization[2]. Artificial Intelligence (AI) has rapidly transformed industries and has led to the emergence of controversial copyright discussions in the context of these creations. As AI becomes much more capable of generating creative content - from visual art to musical compositions - an unpredictable question arises: who owns the rights for these works and how can their authority be legally recognized? Under the law, the traditional concept of "author" refers to a natural person, and copyright is attributed to creators[3]. However, works generated by AI challenge this paradigm, and legal adaptation is necessary precisely to protect the creations of natural persons, but also to adapt the law to the new contemporary reality. In the absence of clear regulations, the field remains exposed to legal uncertainty, influencing both the various property law cases and the economic implications for business and the digital market of works created by AI. The novelty of this topic lies in the way that AI redefines the concept of "author", leading to different regulation of traditional intellectual property rights. The paper aims to analyze an emerging topic, focusing on the hypothesis of the recognition of AI as a legal "author", the originality consisting in the theoretical assessment of the economic and legal implications, offering a different perspective on the adaptation of European legislation in the digital time.

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[2] Adrian-Cristian Moise, *Dimensiunea criminologică a criminalității din cyberspațiu*, C.H. Beck Publisher, Bucharest, 2015, p.1.

[3] *Article 3, paragrapgh (1), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

II. Body of the Paper

1. Introduction to the concept of "Artificial Intelligence" and its relevance in business

Artificial intelligence has become far too well known and used nowadays that it would be meaningless to claim that there is any field in which it is not embedded. In the business world AI has a crucial influence, taking into account the demand-supply relationship in the single daily market, the efficiency of AI methods, the time saved and the unlimited resources.

1.1 Definition of Artificial Intelligence (AI)

Artificial Intelligence (AI) is one of the newest fields in science and technology[4]. Artificial Intelligence can be approached from different perspectives: technical, economic, neuroscientific, mathematical, philosophical[5], and others. Artificial Intelligence works through a "skeleton" of agents, taking in information, learning automatically, processing natural language, neural networks, just like a human brain[6].

Artificial Intelligence refers to systems that exhibit intelligent behaviors by analyzing their environment and taking actions - with some degree of autonomy - to achieve specific goals. AI systems can rely solely on software, acting in the virtual world (e.g. voice assistants) or AI can be embedded in hardware devices (e.g. advanced robots)[7].

1.2 European Business Law in today`s world

The Law affects every aspect of people's lives, regulating conduct in society. Law is a set of rules, enforceable by the courts, which govern the governance of the state, the relationship between the state and its citizens and the ties between its members[8]. Business law aims to regulate relations from the perspective of commercial, economic and legal activities. European Business Law regulates the legal framework for business at the level of the European Union. Nowadays, the main objectives of this area of law are to ensure an efficient internal market, to

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[4] Stuart Russel, Peter Norvig, *Artificial Intelligence. A modern approach, Third Edition*, Pearson Publisher, New Jersey, 2010, p.1.

[5] Stuart Russel, Peter Norvig, *Artificial Intelligence. A modern approach, Third Edition*, Pearson Publisher, New Jersey, 2010, pp.1-12.

[6] Stuart Russel, Peter Norvig, *Artificial Intelligence. A modern approach, Third Edition*, Pearson Publisher, New Jersey, 2010, p.46.

[7] *Communication (2019) 168 final* of 08.04.2019 to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, aiming to build citizens' trust in human-centered Artificial Intelligence.

[8] Sarah Riches, Vida Allen, *Keenan and Riches` Business Law, Ninth Edition*, Pearson Publisher, Edinburgh, 2009, p.1.

protect consumers and to facilitate international trade[9]. More clearly, European business law is based on European Union rules, directives and national regulations that promote a fair and transparent business environment. In the future, European Business Law should focus on adapting to new trends and technologies, including digitalization and related legislative changes.

1.3 The Importance of Artificial Intelligence in the Business World

Artificial Intelligence is constantly consolidating and gaining more and more attention in the legal and economic world. Therefore, AI plays an important role in transforming the way businesses operate, helping to increase efficiency and optimize processes. For example, the German European company Bosch announced in 2017 its AI strategy: hiring 30,000 AI experts in the next 2 years[10], precisely for innovation, increasing work efficiency and establishing new business regulations. In addition to the obvious benefits in the business world, AI may bring new legislative changes and challenges to European law, particularly in the area of copyright. As AI becomes increasingly capable of generating original content, similar or even identical to a human brain, a problem regarding the ownership of copyright for these works arises. Acquiring copyright protection for AI-generated works could stimulate innovation and economic development by encouraging companies to invest in AI technology, but it could also create legal uncertainties about the liability and remuneration of human creators and business competitiveness.

The inextricable link between AI and business law has also been highlighted at the jurisprudential and legislative levels. For instance, in May 2017, the European Economic and Social Committee (EESC) adopted an opinion on the impact of Artificial Intelligence (AI) on the digital single market, production, consumption, employment and society - The impact of Artificial Intelligence for the (digital) single market, production, consumption, employment and society[11]. Moreover, the European Commission has created a group called HLEG (High Level Expert Group on Artificial Intelligence) made up of employees of large companies, university professors, consultants, defense groups, civil society representatives. The HLEG facilitates and strengthens cooperation on AI across the EU to boost competitiveness and ensure citizens'confidence in this technology[12].

AI is thus closely linked to business, but also to law in general. At the Council of Europe level, the European Commission for the Efficiency of Justice

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[9] *Title I, General Provisions and the Establishment and Functioning of limited liability companies, Directive (EU) 2017/1132 relating to certain aspects of company law (codification),* June 2017, European Parliament, Official Journal of the European Union.

[10] Philippe Lorenz, Kate Saslow, *Demystifying AI & Ai Companies*, Berlin, 2019, p. 26.

[11] *Own-initiative opinion 2017/C 288/01 - The impact of Artificial Intelligence for the (digital) single market, production, consumption, labor market and society*, June 2017, European Economic and Social Committee, Official Journal of the European Union.

[12] Elena Lazăr, Nicolae Dragoș Costescu, *Dreptul European al Internetului*, Hamangiu Publisher, Bucharest, 2024, p. 285.

(CEPEJ) was set up by the Committee of Ministers in September 2002. In December 2018, the CEPEJ adopted the first European Ethical Charter on the use of artificial intelligence by judicial systems. The text prepared by the Commission's Working Group sets out principles to guide the evolution of artificial intelligence tools in European judicial systems[13].

2. Copyright and Artificial Intelligence: A hypothetical legal framework

Copyright is a controversial exclusive right, which has been discussed over the years in various cases in European jurisprudence. An impossible hypothesis to avoid at present would be the acquisition of copyright on creations generated by AI.

2.1 What is copyright?

Copyright is a legal institution with significant cultural and patrimonial value. This right has a subjective side which concerns the holder's recognized and guaranteed possibility to dispose of an intellectual creation, in accordance with legal limits. In essence, there is an exclusive right of use and exploitation by the copyright holder, which brings certain patrimonial benefits, limited only by society in terms of the duration of protection and the exercise of the exclusive property right[14]. The subject matter of copyright is works of intellectual creation in the literary, artistic or scientific domain, *id est* the form in which ideas are expressed[15].

More clearly, copyright is a set of prerogatives enjoyed by the authors of original literary, artistic or scientific creations, since it protects works from unauthorized use. Copyright is a way of recognizing and rewarding the work of creators and a way of safeguarding the protection of cultural identity.

Copyright is protected by a series of directives (such as Directive 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC or even Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society) or laws (Law 8/1996 on copyright and related rights) or other relevant legislation. These pieces of legislation with important content at both national and European levels (in terms of directives) establish exclusive rights for authors over their works, including the right of reproduction or distribution[16]. They also provide safeguards against unauthorized

[13] *European Ethical Charter on the use of Artificial Intelligence in judicial systems and their environment*, December 2018, European Comission for the Efficiency of Justice (CEPEJ), Council of Europe, adopted at the 31st plenary meeting of the CEPEJ, Strasbourg, pp.7-12.

[14] Jucan Coduța, *Dreptul de Proprietate Intelectuală – Note de curs*, Faculty of Law Publisher, Cluj-Napoca, p.9.

[15] Jucan Coduța, *Dreptul de Proprietate Intelectuală – Note de curs*, Faculty of Law Publisher, Cluj-Napoca, p.12.

[16] *Article 13, letters a) and b), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

use of works[17] and promote a balance between the interests of creators and users, facilitating access to culture and information.

2.2 Copyright for works created by AI: a legal challenge

Copyright provides legal protection to creators of original works, such as literary or scientific works, giving them control over how their creations are used and the right to benefit financially from them. Traditionally, the author is a natural person and the law is based on the idea of human creativity[18]. However, in modern times, with the evolution of information, systematization and technological advancement, an unpredictable question has arisen: "Who owns copyright in the context of Artificial Intelligence?". In particular, AI-generated works cause a re-evaluation of this concept, as AI can create texts, images, songs and other art forms, sometimes even without human intervention or minor intervention.

Therefore, distinct problem situations arise with regard to intellectual property law, namely copyright and Artificial Intelligence.

On the one hand, there is the possibility of copyright infringement by AI itself, i.e. by AI developers. This infringement is realized precisely by using copyrighted material to train AI algorithms through ”data mining”. The issue has also been addressed at the legislative level within the European Union through a Directive (the DSM Directive[19]). The Directive introduced the legal and juridical definition of "data mining"[20] along with other specifications, which only apply when the protected data/work is used to train AI systems. More clearly, the Directive recognizes the value of data mining for innovating and enhancing AI, but sets limits to protect the legitimate interests of rights holders. However, not all situations of copyright infringement through AI have been covered by the Directive, and the legal framework needs further regulation in this area.

On the other hand, the second problem situation concerns copyright protection and ownership of works created by or with the help of AI. As a general rule, as mentioned above, to benefit from copyright protection at the European and

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[17] *Chapter III, Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society*, May 2001, European Parliament and the Council, Official Journal of the European Union.

[18] *Article 3, paragraph (1), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

[19] *Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*, April 2019, European Parliament and the Council, Official Journal of the European Union

[20] ”(2)`text and data mining` means any automated analytical technique aimed at analysing text and data in digital form in order to generate information which includes but is not limited to patterns, trends and correlations” (*Article 2, paragraph (2), Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*, April 2019, European Parliament and the Council, Official Journal of the European Union).

international level, works must be original, not a copy of a pre-existing work[21], and must belong to the author (with some exceptions), who is, in principle, a human being[22]. Although copyright is partially covered by the law in the national law and in the European Union, there are still distinct and important specifics to be addressed, such as the owner of the copyright in a work created by AI (the AI itself, the developers of AI algorithms or the users who guide or interact with the AI).

In the first situation, if AI was recognized as an author in its own right, independently, things would be regulated fairly quickly. However, current legislation does not allow this, as AI does not have legal personality or the status of a "natural person". Copyrights are reserved for natural persons with legal capacity[23] and the AI does not meet either of these criteria. Therefore, granting this status would entail significant legislative changes, which would lead to more and more debates on ethics, legal liability and legal consolidation.

The situation in which AI developers would acquire copyright in AI creations seems plausible when based on the idea that they have created the algorithm and technology necessary for AI to function - thus the technological "creativity" of the system. However, AI developers could be no more than mere 'indirect authors' of the works created, as they do not directly contribute to each creative outcome. If they were given this status, the unique input of each user would be neglected, and the way of using AI technology is the most important, as this is how the algorithms are guided to create the works. In the case of computer programs, on the other hand, copyright is acquired: if they are created by one or more employees in the performance of their duties or on the instructions of the person who employs them, the economic rights of copyright belong to the latter[24]. On the other hand, ideas, processes, methods of operation, mathematical concepts and principles underlying any element of a computer program, including those underlying its interfaces (this includes Artificial Intelligence) are not protected[25].

In the third interpretation (users or beneficiaries to acquire copyright over the AI creations they guide), the fundamental idea would be that the user is the one who actually configures the creative process, so he/she should be considered the author influencing the final result. The theory depends on the degree of control and involvement the user has and how they influence the creative process.

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[21] *Article 7, paragraph (1), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

[22] *Article 3, paragraph (1), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

[23] *Article 3, paragraph (1), Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

[24] *Article 75*, *Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

[25] *Article 73, paragraph (2)*, *Lege 8/1996 privind dreptul de autor și drepturile conexe republicată*, June 2018, Romanian Parliament, Official Monitor.

Current legislation has limitations in adapting to AI technology and regulations are still ambiguous. Tackling this legal problem requires innovative solutions to meet these challenges.

For instance, the "Artificial Intelligence Act" approved by the European Parliament will introduce a comprehensive framework for the development and use of AI tools, protect a number of users and citizens' rights, impose certain limits on the use of information and misinformation[26]. Although the law addresses AI-related risks such as liability, discrimination, prejudice - issues that needed to be addressed, there are still gaps in the acquisition of copyright in AI creations.

2.3 Case law and relevant cases - The Next Rembrandt

Although the current legislation does not address the subject at a higher level, there have been cases in Europe and other case law on AI copyright.

"The Next Rembrandt" is a case in French and European case law concerning copyright in AI creations. In this case, a painting was added to the collection of Rembrandt works in the Jacquemart-André Museum in Paris. The painting was not a genuine 12thcentury portrait, but the creation of an Artificial Intelligence program, highlighting a new direction in contemporary art. The painting was created using an algorithm that analyzed more than 168,000 fragments of Rembrandt's work. The AI reproduced Rembrandt's style and technique through facial recognition, resulting in an original work that, while inspired by the artist, was unique. This raised the question of copyright and how the law adapts to these new forms of creativity[27].

In the past, works created with the help of computers were copyrighted by programmers because all actions were controlled by humans[28]. Today, AI programs operate on vague parameters and use neural networks to learn and create autonomously, complicating copyright law.

The European Union has begun to analyze AI-generated works, classifying them into 4 distinct categories: AI co-production (AI works, created with significant human input), human selection of AI-generated works (works generated by AI, but selected by humans for use), brute force generated works (AI creates all possible combinations, without creative intent), and works generated and selected independently by AI (AI creates and selects works without human intervention). Works co-created or selected by humans may qualify for protection, while algorithms that generate works by "brute force" do not meet the originality criteria

[26] European Parliament, *Artificial intelligence law*, 2024, https://www.europarl.europa.eu/news/ro/press-room/20240308IPR19015/legea-privind-inteligenta-artificiala-pe-adopta-un-act-de-referinta.

[27] David Moreno, *Quand l'IA peint un nouveau Rembrandt – IA,* Chroniques Plurielles Publisher, 2020, https://www.chroniquesplurielles.info/post/quand-l-ia-peint-un-nouveau-rembrandt-ia-6.

[28] Andres Guadamuz, *Artificial Intelligence and Copyright*, Wipo Magazine Publisher, 2017, https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html.

for copyright[29]. Furthermore, the EU emphasizes the importance of human input in assessing the originality of works and how these categories influence copyright protection. What can be observed is an increase in the importance given to AI in recent years at the European level, highlighting a huge potential for clear and broad copyright regulation of AI creations in the near future.

The case of "The Next Rembrandt" has prompted wide-ranging discussions about copyright for works created by AI. Although the status of AI-generated works has not been formally decided, the discussions continue to highlight the challenges of this topic. It is believed that AI may not benefit from copyright protection precisely because of the absence of direct human input in the creative process.

A clarification of the law is needed to encourage creativity but also to protect the traditional rights of creators. Without protection, there could be disincentives to use AI for creativity, and future court decisions will need to address these emerging dilemmas. Without this important legal protection, some influential content creators may be discouraged from creating knowing that their AI-produced work will not receive the protection they need in an open market.

3. Copyright acquisition by AI: impact on the European Digital Single Market

The European Digital Single Market has evolved very rapidly and constantly, and Artificial Intelligence could be, in this context, a new and efficient way to strengthen European business law.

3.1 The European Digital Single Market

The European Digital Single Market is an integrated framework facilitating online trade and data flow between EU Member States. This market is essential for the competitiveness of European businesses as it allows access to a wider market and reduces trade barriers. The aim of the single market is to ensure that Europe's economy, industry and society benefit fully from the new digital age. Under the EU-wide Digital Single Market, people can shop online abroad and businesses can sell online across the EU[30]. Since the 2015 Digital Single Market Strategy, a number of important achievements have followed: the abolition of roaming charges, cross-border portability of online content, modernization of data protection, an agreement to unlock e-commerce by ending unjustified geo-blocking[31].

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[29] Helene Margrethe, *EU copyright protection of works created by artificial intelligence systems, thesis*, The University of Bergen Publisher, 2017, pp.18-23.

[30] *Annex 1, Actions, Specific Objective 1-5, Regulation (EU) 2021/694 establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240*, April 2021, European Parliament and the Council, Official Journal of the European Union.

[31] European Council, Council of the European Union, *Digital Single Market for Europe,* 2020, https://www.consilium.europa.eu/en/policies/digital-single-market/.

In the context of technological consolidation, AI regulation becomes crucial to ensure a balance between innovation and the protection of intellectual property rights.

3.2 The influence of AI on intellectual property rules in business

Copyright acquisition by AI could fundamentally transform the business landscape in the European Digital Single Market and beyond. Companies would, first and foremost, have to adapt to new intellectual property models, which could generate new business opportunities, but also legal or economic challenges. For example, businesses could in the future be governed by a model based on collaboration between humans and AI, facilitating innovation[32]. However, such a model would also generate many controversies and difficulties in information management, business organization and legislative regulation in European business law.

Moreover, the impact on legal compliance could also include changes in how authorship is defined and who benefits from copyright, with significant implications for companies' commercial strategy. For example, using AI to analyze consumer preferences could lead to the creation of more attractive offers, thereby increasing sales. Using algorithms, AI could analyze target audiences and attract buyers in targeted ways[33]. Furthermore, market influence could include the development of innovative business models, such as platforms that allow users to easily license their AI-generated creations[34]. Such an opportunity would create more competition and diversification of products available on the market, thus contributing to overall economic growth at the level of individual countries within the European Union.

On the other hand, this change would bring many complex intellectual property challenges - copyrights and responsibilities for creations generated by AI. Disputes over who would own the copyright in AI creations would negatively affect confidence in commercial products. Beyond this legal, economic and reputational challenge, the business world may face difficulties in complying with the new

[32] *Legal framework for the coexistence of humans and conscious AI*, Mindaugas Kiskis, Institute of Business and Economics, Mykolas Romeris University, Vilnius, 2023, https://www.frontiersin.org/journals/artificial-intelligence/articles/10.3389/frai.2023.1205465/full.

[33] *Unlocking Your Audience: Leveraging AI for Targeted Marketing Strategies*, 2024, https://pcsocial.medium.com/understanding-and-connecting-with-your-target-audience-is-incredibly-important-in-todays-digital-46c27aea6964.

[34] OECD/KDI, *Case Studies on the Regulatory Challenges Raised by Innovation and the Regulatory Responses*, OECD Publishing, Paris, 2021, pp. 51-58, https://doi.org/10.1787/8fa190b5-en.

regulations, requiring investment in legal, technological and strategic advice[35]. This would have a negative financial impact, particularly for small businesses.

The acquisition of copyright by Artificial Intelligence could have a colossal impact on commercial strategies in the European Digital Single Market. However, the less straightforward effects related to the clarification of intellectual property and the impact on the business model require broad, careful and modernized regulation in line with the constant changes in the business and technology world. Companies will need to embrace the new realities to maximize the benefits of AI, while ensuring that copyright is protected and respected - an essential adaptation for long-term success[36].

3.3 Licensing and commercial exploitation of AI Creations

The commercial exploitation of AI-created works is a predictable topic in intellectual property discussions, particularly in relation to copyright transfer and licensing. The main issue is, as mentioned above, who owns the copyright in AI-generated works, especially if the AI acts autonomously. The answer to this question is mandatory, because without this answer, one cannot analyze the hypothesis of copyright licensing of AI creations. Hypothetical cases may include distinct situations in the business world, including music or art, and intellectual property questions could lead to legal conflicts.

For example, Dr. Obed Ben-Tal, along with a team of researchers at Kingston University, has created a program named "Bot Dylan" - able to analyze Irish popular music and create special music based on its analysis[37]. Since the music is created by AI program, it is not known who owns the copyright. While the research team created Bot Dylan and taught Bot Dylan how to understand Irish folk songs, Bot Dylan did all the creation after the original programming. With the issue of creativity in flux, it's hard to say how the courts will treat the music composed by

[35] OECD/KDI, *Case Studies on the Regulatory Challenges Raised by Innovation and the Regulatory Responses*, OECD Publishing, Paris, 2021, pp. 51-58, https://doi.org/10.1787/8fa190b5-en.

[36] "(63) That right should not adversely affect the rights or freedoms of others, including trade secrets or intellectual property and in particular the copyright protecting the software" (*Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC*, April 2016, European Parliament and the Council, Official Journal of the European Union).

[37] Andrew Winegar, *Protecting "The Next Rembrandt": Evaluating Artificial Intelligence`s Relationship With Copyright Law*, Chicago-Kent Journal of Intellectual Property Publisher, 2018, https://studentorgs.kentlaw.iit.edu/ckjip/protecting-next-rembrandt-evaluating-artificial-intelligences-relationship-copyright-law/.

Bot, but it's very likely that all of his songs will end up directly in the public domain due to their inability to be considered copyrightable works[38].

This is also a serious problem in the business world, as many businesses could well use AI to create content that would benefit from copyright protection. Dr. Ben-Tal and his team created Bot Dylan for a corporate purpose. Celtic melodies created by Bot could make excellent noises in a video game produced by the company. If works of Artificial Intelligence are not subject to copyright, then any music created by Bot Dylan could be reproduced by any competing company that wants the same sounds in their game, creating the very real possibility of a negative economic impact suffered by the original company using Bot Dylan's composition[39].

Under the hypothesis of AI copyright, licensing and commercial exploitation, there is an urgent need to adapt legislation to clarify who owns the rights to works created by AI, to protect commercial interests and support innovation in the business world in Europe and globally.

3.4 Commercial exploitation of data

The exploitation of data by AI has a profound impact on the business environment in the European Digital Single Market. The collection and analysis of personal data enables companies to create personalized content, thus optimizing marketing strategies and product offerings. For example, an AI-based recommendation system can use consumer behavioral data precisely to propose products or services tailored to consumers' preferences[40]. However, this process raises questions about privacy and data protection, especially in the context of strict EU regulations such as GDPR[41]. The impact on the single market includes not only improving the consumer experience, but also the need to comply with legal rules, which may influence how companies use AI to gain a competitive advantage.

A more complex and relevant example is the use of AI in digital marketing. Companies like Netflix use algorithms that analyze user data to give them

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[38] Andrew Wasson, *BOT Dylan: The World`s first Computer Folk Artist*, Creative Guitar Publisher, 2017, https://creativeguitarstudio.blogspot.com/2017/05/bot-dylan-worlds-first-computer-folk.html.

[39] Andrew Winegar, *Protecting "The Next Rembrandt" : Evaluating Artificial Intelligence`s Relationship With Copyright Law*, Chicago-Kent Journal of Intellectual Property Publisher, 2018, https://studentorgs.kentlaw.iit.edu/ckjip/protecting-next-rembrandt-evaluating-artificial-intelligences-relationship-copyright-law/.

[40] S.O.Babatunde, O.A.Odejide, T.E.Edunjobi, D.O.Ogundipe, *The role of AI in Marketing Personalization: a theoretical exploration of consumer engagement strategies*, International Journal of Management and Entrepreneurship Research Publisher, 2024, pp. 944-945.

[41] *Article 47, paragraph 1, letter d), Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC*, April 2016, European Parliament and the Council, Official Journal of the European Union.

personalized movie or music suggestions[42]. This model not only improves customer satisfaction, but also optimizes retention and revenue growth through audience engagement. However, these practices must comply with current legislation, which requires strict and rigorous data protection measures. And in this context, if an AI program has been created to collect consumer preferences and increase sales and attract the targeted audience, what does AI achieve?

4. AI copyright: a possible legal framework for business

Intellectual property rights, i.e. copyright on AI-generated creations, can transform the contemporary European business model into a much more efficient one, based on the connections between human and AI algorithms, investment, technological innovation. Companies, including start-ups and large corporations, are already motivated to invest in the development of AI, knowing that they can protect both the algorithms and the innovative results. Patents and copyrights ensure exclusivity and competitiveness, so investors can recoup their funds[43]. For example, algorithms used for machine learning processes or in targeted advertising could be patented or copyrighted.

However, challenges remain, such as determining exactly which author actually owns the right to AI creations, given the major role of autonomous algorithms.

In Europe, Directive 2019/790 on copyright and related rights in the Digital Single Market[44] and Directive 2001/29/EC[45] are two key instruments supporting companies' rights over digital creations, while Directive 98/44/EC[46] on the protection of biotechnological inventions provides an additional basis for the protection of inventions incorporating AI. This encourages the development of business models that exploit AI in innovative and profitable ways, ensuring both a return on investment and increased competitiveness in the European digital single market. A clear and well-defined intellectual property rights framework for AI is necessary to protect investment and stimulate economic development, but it is

[42] *Netflix Recommendations: How Netflix Uses AI, Data Science and ML*, Simplilearn Publisher, 2024, https://www.simplilearn.com/how-netflix-uses-ai-data-science-and-ml-article.

[43] *Article 33, Lege 64/1991 privind brevetele de invenție republicată,* January 2004, Romanian Parliament, Official Monitor.

[44] *Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*, April 2019, European Parliament and the Council, Official Journal of the European Union

[45] *Directive 2001/29/EC on the harmonisation of certain aspects of copyright and related rights in the information society*, May 2001, European Parliament and the Council, Official Journal of the European Union.

[46] *Directive 98/44/EC on the legal protection of biotechnological inventions*, July 1998, European Parliament and the Council, Official Journal of the European Union.

important that it is balanced to support innovation and does not create monopolies on vital technology or information.

In addition, AI has revolutionized targeted advertising, allowing companies to access complex data about users, which helps to create marketing campaigns tailored to their needs and preferences. AI algorithms analyze browsing behavior, demographics and preferences to deliver personalized ads, increasing the effectiveness and impact of advertising campaigns. However, this process raises ethical and privacy concerns, particularly in the context of the collection and use of personal data, which is covered by the GDPR[47], which lays down strict rules on privacy and consent. In the long term, integrating AI into targeted advertising needs to strike a balance between innovation and respecting users' rights to ensure transparency and accountability. In this regard, the European Parliament's 2021 Resolution on Artificial Intelligence[48] recognizes the risks related to personal data and human rights violations. It states that, given the processing of large amounts of personal data, the right to privacy and personal data protection applies to all areas of AI and that the Union's legal framework on data protection and privacy must be fully respected[49].

III. Conclusions

1.1 Conclusions on the evolution of AI and the hypothesis of Copyright Acquisition

Like all legislation at the European level, the Internet is governed by important principles and rights, such as social justice, expression and association, privacy and the protection of personal data[50]. In view of all the important regulations

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[47] *Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC*, April 2016, European Parliament and the Council, Official Journal of the European Union.

[48] *Resolution 2020/2016 (INI) on artificial intelligence in criminal law and its use by the police and judicial authorities in criminal matters*, October 2021, European Parliament, Official Journal of European Union.

[49] "1.Reiterates that, as processing large quantities of personal data is at the heart of AI, the right to the protection of private life and the right to the protection of personal data apply to all areas of AI, and that the Union legal framework for data protection and privacy must be fully complied with; recalls, therefore that the EU has already established data protection standards for law enforcement, which form the foundation for any future regulation in AI for the use of law enforcement and the judiciary; recalls that processing of personal data should be lawful and fair, the purposes of processing should be specified, explicit and legitimate" (*Resolution 2020/2016 (INI) on artificial intelligence in criminal law and its use by the police and judicial authorities in criminal matters*, October 2021, European Parliament, Official Journal of European Union).

[50] *The Charter of Human Rights and Principles for the Internet*, The Third Edition, May 2014.

concerning the rights and governing principles of the Internet, the approach to the acquisition of copyright in creations generated by Artificial Intelligence (AI) is essential.

The constant and rapid development of Artificial Intelligence, especially in recent years, has led to unique creations, but recognizing copyright for AI works still remains a challenge that, however, needs to be solved in the near future. Copyright is currently reserved for human creations, but future legislative changes could redefine authorship to include AI.

However, the European but also the international economy would be significantly altered, as the acquisition of copyright by AI would influence multiple sectors, from the creative industries to technology and digital business (which are currently growing at a rapid pace). This recognition would encourage the use of AI in creative production processes, product innovation and service optimization, which could boost productivity in sectors such as advertising, music, design and software development[51]. On the other hand, there are also risks, such as reducing the need for human creators in some sectors or ethical and equity issues, leading to costly legislative changes and regulations.

The formal recognition of AI works would require legislative adaptations to provide a clear framework for automated copyright. Copyright directives[52] could be amended to include AI and clarify who can own the rights to creations - the developer, the user or the AI. Clarification would reduce legal risks for companies, allowing them to use AI without fear of legal conflicts. The effects would be largely positive, with the potential for economic growth, but this depends on how the new legislative initiatives and necessary labor market adaptations are regulated and supported.

1.2 Proposals for *"lex ferenda"*

In order to adapt the European legal framework to developments in AI and to ensure effective integration into the sphere of intellectual property and copyright, regulations to this end are necessary.

One *"lex ferenda"* proposal is the recognition of a legal status for AI that would establish the conditions under which works generated by AI can benefit from intellectual property protection. This statute could provide that AI has copyright in controlled and clearly defined situations. Moreover, legal regulations could provide how human contributions to AI creations should be selected and determined, precisely in order to determine the extent to which copyright is recognized for the

[51]*Letters c), d), e), f), Resolution 2020/2266 (INI) on artificial intelligence in a digital age,* May 2022, European Parliament, Official Journal of the European Union.

[52]*Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*, April 2019, European Parliament and the Council, Official Journal of the European Union

AI concurrently with the user[53]. In the case of regulating this copyright, it is necessary to amend the legislation on who could own the copyright - including entities other than natural persons, but with limits and specifications. In order to keep the legislative framework as ethical and efficient as possible, the introduction of transparency rules is beneficial in order to clearly identify the contribution of each creator (human or automated)[54]. The copyright regulation should also provide for the possibility of specific licensing mechanisms for AI works, in order to respect the rights of human creators and ensure fair distribution of revenues among all parties involved.

In the context of the same proposal, European business law should not ignore these changes for companies. Thus, copyright on AI creations could also be regulated for commercial use. In the case of AI-generated works, companies that invest in the development and use of AI in that cause should also acquire a status in that respect. They could temporarily own the copyright in the generated works, provided that the AI is used under some human authority[55]. For example, in an advertising company using Artificial Intelligence to generate a graphic design for an advertising company, the human programmer provides specific input on the style, colors, theme of the design, and the AI generates multiple versions. In this case, the ancillary copyright could be granted to the advertising company, and the human contribution of the programmer would be recognized by giving him/her copyright over the creation - the design, with the specification of the AI's contribution in creating the final result.

[53] "9. Recommends that priority be given to assessment by sector and type of IPR implications of AI technologies; considers that such an approach should take into account, for example, the degree of human intervention, the autonomy of AI, the importance of the role and the origin of the data and copyright-protected material used and the possible involvement of other relevant factors;" (*Resolution 2020/2015 (INI) on intellectual property rights for the development of artificial intelligence technologies*, October 2020, European Parliament, Official Journal of the European Union).

[54] "H. whereas a common Union regulatory framework for the development, deployment and use of artificial intelligence, robotics and related technologies ('regulatory framework for AI') should allow citizens to share the benefits drawn from their potential, while protecting citizens from the potential risks of such technologies and promoting the trustworthiness of such technologies in the Union and elsewhere; whereas that framework should be based on Union law and values and guided by the principles of transparency, explainability, fairness, accountability and responsibility;" (*Resolution 2020/2012 (INL) with recommendations to the Commission on a framework of ethical aspects of artificial intelligence, robotics and related technologies*, October 2020, European Parliament, Official Journal of the European Union).

[55] "9. believes that disruptive technologies such as AI offer both small and large companies the opportunity to develop market-leading products; considers that all companies should benefit from equally efficient and effective IPR protection; therefore calls on the Commission and the Member States to offer support to start-ups and SMEs via the Single Market Programme and Digital Innovation Hubs in protecting their products;" (*Resolution 2020/2015 (INI) on intellectual property rights for the development of artificial intelligence technologies*, October 2020, European Parliament, Official Journal of the European Union).

These proposals could be integrated by amending the AI Pact[56], a new regulation, which has just been introduced into the European legislative framework.

1.3 The reality of business law versus AI copyright

The adoption of a legal framework to cover works generated by Artificial Intelligence (AI) is a necessary but complex step in European business law. While AI opens new horizons of innovation and efficiency, it also redefines the traditional boundaries of intellectual property. Business law needs to adopt a holistic vision, including regulations on transparency, accountability, protection, traceability of AI operations. In a digitized Europe, where innovation and sustainability are priorities, the acquisition of copyright on AI creations would positively transform business law, making it forward-looking, supporting the global competitiveness of the economy, but also protecting fairness and creativity - essential elements in an increasingly interconnected, innovative and changing world. Once regulated at the European level, these changes could influence the legal, economic and technological fields globally. According to legal globalism theory[57], law should not be limited to national borders, but should expand globally to better respond to the challenges of an interconnected world.

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