

Intellectual Property Law in the Age of Artificial Intelligence: Legal Challenges and Regulatory Perspectives

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ABSTRACT: *The study's relevance is stipulated by the rapid development of artificial intelligence (AI) and the need to adapt legal regulation in intellectual property to modern technological challenges. The absence of a unified approach to determining authorship and protecting rights to objects created by AI creates legal uncertainty and hinders innovation development. The study aims to analyse the existing approaches to regulating intellectual property rights created by AI and develop recommendations for improving the legislation. The object of the study is the legal acts and doctrinal approaches to the regulation of rights to the results of AI activities. This research uses a multidisciplinary approach by combining comparative legal methods, content analysis, historical, structural-system, forecasting, and empirical analysis. This approach allows for an in-depth analysis of intellectual property regulations in the context of artificial intelligence in various jurisdictions and the preparation of data-based policy recommendations and future projections. The study results showed a significant fragmentation of AI regulation in different jurisdictions. It analyses the models used in the USA, EU, China, UK, and other countries, identifying their strengths and weaknesses. Recommendations on harmonizing international standards and adapting the Berne Convention and the TRIPS Agreement to modern technological conditions are proposed. The practical significance of the work is to form the basis for the development of universal legal mechanisms that will help protect intellectual property rights created by AI and stimulate*

innovative development. The findings can be used to improve legislation at the national and international levels.

Relevansi penelitian ini ditetapkan oleh pesatnya perkembangan kecerdasan buatan (AI) dan kebutuhan untuk mengadaptasi peraturan hukum dalam kekayaan intelektual terhadap tantangan teknologi modern. Tidak adanya pendekatan terpadu untuk menentukan kepengarangan dan melindungi hak atas objek yang diciptakan oleh AI menciptakan ketidakpastian hukum dan menghambat pengembangan inovasi. Penelitian ini bertujuan untuk menganalisis pendekatan yang ada untuk mengatur hak kekayaan intelektual yang diciptakan oleh AI dan mengembangkan rekomendasi untuk meningkatkan undang-undang tersebut. Objek penelitian adalah tindakan hukum dan pendekatan doktrinal terhadap pengaturan hak atas hasil kegiatan AI. Penelitian ini menggunakan pendekatan multidisiplin dengan menggabungkan metode hukum komparatif, analisis konten, historis, struktural-sistem, peramalan, dan analisis empiris. Pendekatan ini memungkinkan analisis mendalam terhadap peraturan kekayaan intelektual dalam konteks kecerdasan buatan di berbagai yurisdiksi dan persiapan rekomendasi kebijakan berbasis data dan proyeksi masa depan. Hasil penelitian menunjukkan fragmentasi signifikan dari peraturan AI di berbagai yurisdiksi. Ini menganalisis model yang digunakan di AS, UE, Tiongkok, Inggris, dan negara-negara lain, mengidentifikasi kekuatan dan kelemahan mereka. Rekomendasi tentang harmonisasi standar internasional dan adaptasi Konvensi Berne dan Perjanjian TRIPS terhadap kondisi teknologi modern diajukan. Makna praktis dari karya ini adalah untuk membentuk dasar bagi pengembangan mekanisme hukum universal yang akan membantu melindungi hak kekayaan intelektual yang diciptakan oleh AI dan merangsang pengembangan inovatif. Temuan ini dapat digunakan untuk meningkatkan legislasi di tingkat nasional dan internasional.

Keywords: *Artificial Intelligence, Authorship, Legal Regulation, International Standards, Berne Convention, TRIPS Agreement, Harmonisation of Legislation.*

I. INTRODUCTION

Artificial intelligence (AI) is rapidly changing the modern world's technological, economic and social landscape, creating new opportunities and challenges for humanity. Regulating intellectual property (IP) rights arising from AI is one of the most discussed issues. This is a problem for scientists and practitioners alike because the legislation of many countries is not designed to account for the different ways in which innovations generated by artificial intelligence can be created and used. Copyright protection is problematic in IP regulation because uncertainty will lead to legal conflict and hinder IP innovation development. Research on this problem has been accruing sponsors in recent years. [Meyer](#) (2024) and [Vesala](#) (2023) discuss legislative gaps needing immediate addressing and the general relevance of EU legal norms to the modern world. Taking on new models of legal protection of AI-produced objects, [Kazeeva](#) (2024) and [Puertas-Bravo et al.](#) (2024) argue that this requires the standardisation of international laws. The study by [Da Silva et al.](#) (2022) also stresses the social aspect of the AI regulation process as its key importance. Although much research has been dedicated to this subject, the study still

has gaps. Notably, the above issues are the attribution of the authorship of AI-generated works, their integration into new legal norms of international law, and the making of mechanisms to limit legal conflicts among nations ([Shepitko et al.](#), 2024). Such 'white spots' generate legal uncertainty, dampening interest in innovative technologies.

This study aims to research the legal regulation of the intellectual property of artificial intelligence existing experiments worldwide and in the nation and suggest distinct recommendations. In particular, it is recommended to amend national legislation towards involving peculiarities of analytics brought about by the creation and use of the intellectual property objects generated by AI, to change international regulation, including the Convention of Berne and TRIPS Agreement, to harmonise standard of regulation, to define the status of the authorship of the object generated from AI, as well as to establish the mechanisms for protective measures, to provide the methodological recommendations for putting the business into the line and provide the AI developer The objective of this specification is to establish an improved legal framework, increase legal regulation efficiency and stimulate artificial intelligence development.

An analysis of current research on the legal regulation of artificial intelligence (AI) uncovers a broad debate about the legal personality of AI and what constitutes authorship and ownership of intellectual property ([Kostenko et al.](#), 2024). For example, [Meyer](#) (2024) and [Vesala](#) (2023) consider legal questions about using artificial intelligence, such as adapting existing regulations. [Magrani & da Silva](#) (2024) discuss automated systems' main ethical and legal aspects, which call for multi-level regulation. [Kazeeva](#) (2024) and [Puertas-Bravo et al.](#) (2024) focus on sui generis mechanisms for protecting intellectual property rights created by AI; they argue for harmonising international standards. [Nguyen et al.](#) (2024) study the influence of digital transformation on IP rights regulation in Vietnam. [Gulyamov](#) (2024) investigates the adoption of AI in legal systems in CIS countries. According to [Naim & Chan](#) (2024), intellectual property is the trigger for stimulating innovation during the pandemic.

According to [Picht & Thouvenin](#) (2023), the recommendations for AI and IP policies should include an interdisciplinary approach. In a paper by [Zhang et al.](#) (2024), they talk about the particularities of protecting AI-based text generators with a special emphasis on copyright in the distributed environment. [Sharma](#) (2024) and [Klobucnik](#) (2024) discuss how AI affects copyright in the age of the digital revolution and suggest ways in which current legal laws must adapt. [Yadong](#) (2024) also notes how global standards are urgently needed to regulate the owners' rights to AI-generated works. In intellectual property, [Cristofori](#) (2024) tackles the development question as sustainable, and [Mazzi](#) (2023) considers the link between AI, IP and the Sustainable Development Goals. According to [Al-Tarawneh & Al-Badawi](#) (2024), intellectual property rules must be translated between systems to protect corporate assets. In an overview of the past 30 years of AI regulation and its impact on legislation, [Villata et al.](#) (2022) summarise the experience of the regulation of AI.

The problem of regulating intellectual property rights within the field of artificial intelligence needs to be solved by a holistic study of the trends that emerged in recent research and publications. [Pikhurets et al.](#) (2024) examine the legal issues of utilising

cloud technologies, and AI remains a focus, whereas [Razmetaeva](#) (2024) draws attention to the ethical problems of using AI within justice. [Kaplina et al.](#) (2023) investigate the relationship between fundamental human rights and the use of AI in criminal proceedings. As per [Da Silva et al.](#) (2022), the time to institute such measures is now, and [Khodyko](#) (2024) discusses the legal regime of inventions produced by artificial intelligence. [Kumar et al.](#) (2024) examine the challenges of digital transformation and propose solutions to address the ethical risks of AI. [Giovannini & Pasha](#) (2022) concentrate on the legal questions when AI is used in healthcare systems.

Recent research has explored the challenges of protecting AI-generated inventions in the context of artificial intelligence and intellectual property. [Riswandi](#) (2024) presents an artificial intelligence invention protection model, emphasizing the need for legal frameworks to adapt to AI innovations. Similarly, [Nzoh Sangong](#) (2024) discusses the legal framework for AI in Cameroon, highlighting African nations' unique challenges in regulating emerging technologies.

[Naim](#) (2024) further delves into the issue of intellectual property ownership in the AI era, questioning who should hold the rights to AI creations. In addition, [Pashkov et al.](#) (2023) analyze how AI technologies impact human rights and freedoms, particularly in evolving legal and ethical frameworks.

Overall, the literature review indicates that while a plethora of potential aspects of legal regulation exist to be considered, several of these have yet to be settled on by the literature. For instance, the lack of a coherent approach to ascribing authorship and ownership of AI-generated objects and the insufficient adaptation of international standards to new technological realities are still significant challenges. More research and debate are needed to create a universal legal framework.

II. METHOD

In the "Intellectual Property Law in the Age of Artificial Intelligence: Legal Challenges and Regulatory Perspectives" study, a multidisciplinary approach combines various methods to comprehensively analyze legal regulations on artificial intelligence (AI) in intellectual property rights. The comparative legal method is used to compare the approaches to AI regulation in various jurisdictions, such as the European Union, the United States, China, and the United Kingdom. Through this comparison, a deeper understanding of the differences and similarities in legal regulations reflects the diversity of legal responses to the development of AI technology globally.

Furthermore, the content analysis method examines various legal instruments, such as the Artificial Intelligence Act in the European Union, the U.S. Copyright Law, and international agreements such as the Bern Convention and the TRIPS Agreement. This approach allows the identification of relevant legal norms related to works and innovations produced by AI. To understand how the law adapts to technological change, a historical method is also used, which traces the development of intellectual property regulations over time, especially in responding to the emergence of disruptive technologies such as AI.

This study also adopts a system-structural approach to model the relationship between legal norms governing intellectual property rights and the phenomenon of digital transformation triggered by AI. This approach analyzes how the current legal structure can adapt or even needs to be restructured to respond to new legal challenges posed by AI. As a complement, a legal forecasting method is also used to formulate anticipatory policy recommendations regarding the possible direction of future regulatory developments.

Finally, a quantitative analysis based on statistical data on patents and copyright registrations related to AI provides an empirical basis for the theoretical findings. This analysis provides an overview of real trends in intellectual property registration practices involving AI technology. Combining all these methods allows for the systematization of knowledge and identifying promising areas for further research and development of legal policies.

III. RESULT AND DISCUSSION

An analysis of the existing approaches to the legal regulation of artificial intelligence (AI) in the context of intellectual property (IP) in the world shows that there is no single approach and significant variability in regulatory practices. Table 1 shows the primary methods used in different jurisdictions:

Table 1. Main approaches to legal regulation of artificial intelligence in the context of intellectual property in the world

Country/Region	Key aspects of regulation	Challenges
European Union (EU)	Development of the AI Act, regulation of transparency, responsibility, and security of AI. Copyright issues for AI works.	Ambiguity of authorship, harmonisation of legislation between member states.
USA	Use of applicable laws (patents, copyrights, trademarks). AI that works without human intervention is not protected.	Lack of special legislation and discussions about the legal personality of AI.
United Kingdom	Flexible approach, protection of software and algorithms as patents or copyrights.	The ambiguity of rights to AI works complicates law enforcement.
China	Investing in AI, improving the legal framework, and encouraging patenting of AI innovations.	Lack of transparency in law enforcement, determination of ownership of AI results.
Canada and Australia	Focus on American regulatory principles.	Limited local initiatives on AI rights.
Japan	Emphasis on the balance between IP protection and stimulating technological development.	The need to adapt to global norms.

Source: created by the author based on ([Batsurovska et al., 2024](#); [Kazeeva, 2024](#); [Meyer, 2024](#); [Puertas-Bravo et al., 2024](#); [Vesala, 2023](#)).

There is no unified legal framework for regulating artificial intelligence in intellectual property. Countries adapt existing laws to their technological and social realities, leading to fragmented approaches. Uncertainty about who owns the rights to objects created by artificial intelligence is a significant legal issue. Various models are proposed, but no consensus has been reached yet. The lack of a global approach to regulation creates barriers to transnational trade and cooperation. International agreements like the Berne Convention must be adapted to the new environment. Legislation aims to balance protecting intellectual property rights and stimulating innovation, which requires a flexible and adaptive approach.

Figure 1 shows the key challenges in intellectual property rights protection for artificial intelligence. The main aspects include determining authorship and ownership, adapting existing legislation, balancing protecting rights and stimulating innovation, and ensuring international coordination and harmonisation of legal norms. Each challenge is detailed through specific aspects that must be addressed in the current legal framework.

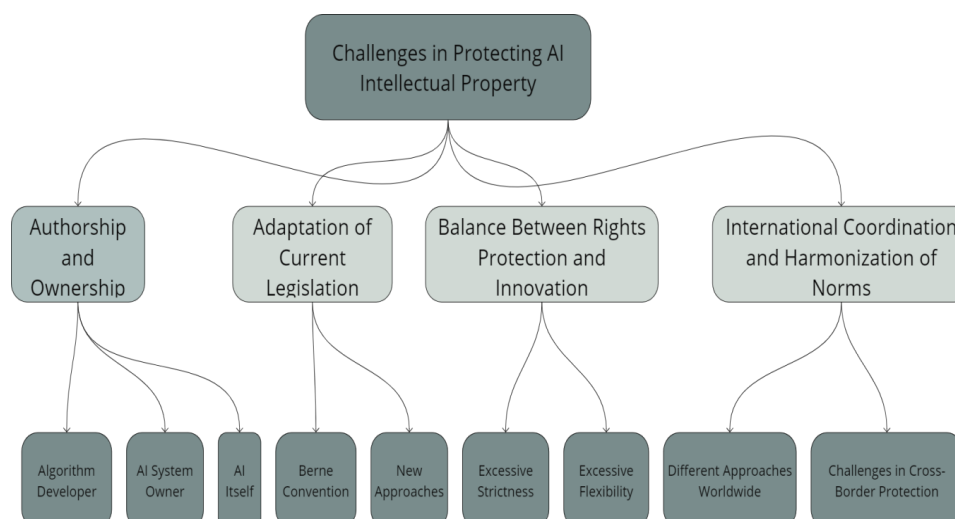


Figure 1. The main challenges in protecting intellectual property rights to the results of artificial intelligence activities. Source: created by the author on ([Kazeeva, 2024](#); [Meyer, 2024](#); [Puertas-Bravo et al., 2024](#)).

One of the key challenges is determining the author of the result created by artificial intelligence: the algorithm developer, the AI system owner, or the AI itself. The lack of precise legal regulation makes it difficult to register intellectual property rights. We can also observe the adaptation of the current legislation. Modern legal acts, such as the Berne Convention, do not provide for the protection of works created without human intervention. This necessitates the development of new approaches that take into account the specifics of AI activities. Excessive rigidity in regulation may hinder the growth of AI technologies, while excessive flexibility creates a risk of abuse of intellectual property rights. Different approaches to intellectual property protection worldwide create obstacles to global trade and cooperation. The lack of universal standards makes enforcing rights in a cross-border context difficult.

Table 2 lists the main legal acts regulating relations in artificial intelligence and intellectual property, with their key provisions and features.

Table 2. Legal acts regulating relations in the field of artificial intelligence and intellectual property (taking into account international experience)

Country/Region	Name of the Legal Act	Main Points	Features/Challenges
European Union	Artificial Intelligence Act (under approval)	It defines the rules for the safe use of AI, the transparency of algorithms, and the responsibility of developers and users.	Lack of special rules on intellectual property for objects created by AI.
	Copyright Directive (2019/790)	It ensures copyright protection in the digital age, including works created using automated processes.	Ambiguity in the application of AI to performance results.
USA	U.S. Copyright Law (Section 102(a))	It defines only works created by humans as subject to copyright protection.	The exclusion of works created by AI from protection complicates the regulation of new technologies.
	Patent Act	It regulates the patenting of inventions that include AI algorithms, provided that there is evidence of an "inventive step."	Fully autonomous AI creates uncertainty about patenting results.
United Kingdom	Copyright, Designs and Patents Act (1988)	It includes special provisions for computer programmes and data generated by AI.	Debates on clarifying the status of ownership of AI results.
	AI Regulation White Paper (2023)	Recommendations on AI regulation, including transparency and ethical principles of use.	Lack of a clear legislative framework and restrictions of a recommendatory nature.
China	Guidance on Regulating Generative AI (2023)	It establishes a framework for creating and using generative AI models, including intellectual property issues.	Focus on state control over innovation and limited transparency of law enforcement.
	Patent Law of the People's Republic of China	Patenting of AI algorithms is allowed if they solve a technical problem.	High competition for AI patents and difficulties in assessing the technical level.
Japan	Copyright Law (changes in 2020)	It defines the use of data for AI training as an exception to copyright.	There is a need for additional regulations to cover the results of AI activities.
	AI Strategy 2021	An AI development strategy that includes proposals for regulating IP in the context of automated systems.	Lack of implementation in legislation.
Canada	Copyright Act	It protects works created with "significant human involvement".	Lack of precise regulation for objects created mainly by AI.

International acts	Berne Convention for the Protection of Literary and Artistic Works (1886)	It provides international copyright protection for creative works.	It does not take into account the specifics of AI and automated creation.
	TRIPS Agreement (1995)	Regulates minimum standards for the protection of intellectual property in WTO member states.	It needs to be adapted to the realities of using AI.
	World Intellectual Property Organisation (WIPO) Recommendations on AI and IP (2020)	Recommendations for protecting IP rights to AI results, including patents and copyrights.	It is not legally binding and is subject to implementation by national governments.

Source: created by the author based on ([Batsurovska et al.](#), 2024; [Kazeeva](#), 2024; [Meyer](#), 2024; [Puertas-Bravo et al.](#), 2024; [Vesala](#), 2023).

The legal acts presented in Table 2 demonstrate various approaches to regulating relations between artificial intelligence (AI) and intellectual property. Each jurisdiction forms its regulatory vector depending on national priorities, which indicates significant differences between countries. Particular emphasis is placed on adapting existing international acts, such as the Berne Convention and the TRIPS Agreement, to the conditions of digital transformation, but achieving global harmonisation of standards remains a challenge. In particular, uncertainty over authorship and ownership of AI-generated works complicates cross-border regulation.

The analysis of regulations also shows that challenges such as ensuring the transparency of algorithms and developer liability are becoming key. However, despite attempts to improve, existing approaches are often limited to recommendations, reducing their effectiveness in practical applications.

Figure 2 illustrates the growth dynamics in the number of patent applications in artificial intelligence and intellectual property objects created by AI from 2018 to 2023. The data for the graph was obtained from several authoritative sources, including the World Intellectual Property Organisation (WIPO) reports, in particular, Technology Trends, which annually analyses the dynamics of patents filed in artificial intelligence. Statistics regarding how many AI tech-related applications include algorithms and generative models are available from the U.S. Patent Office (USPTO) and the European Patent Office (EPO). The China National Patent Office (CNIPA) noted Asia's vigorous patenting activity regarding AI-related inventions. In its AI and Intellectual Property Reports, the Organisation for Economic Cooperation and Development (OECD) described the effects of AI on intellectual property worldwide. Analytical platforms like Statista and McKinsey have also provided data on how many objects AI has made: texts, images, music, and software. We use these sources to analyse the increasing contribution of AI to the discipline of intellectual property.

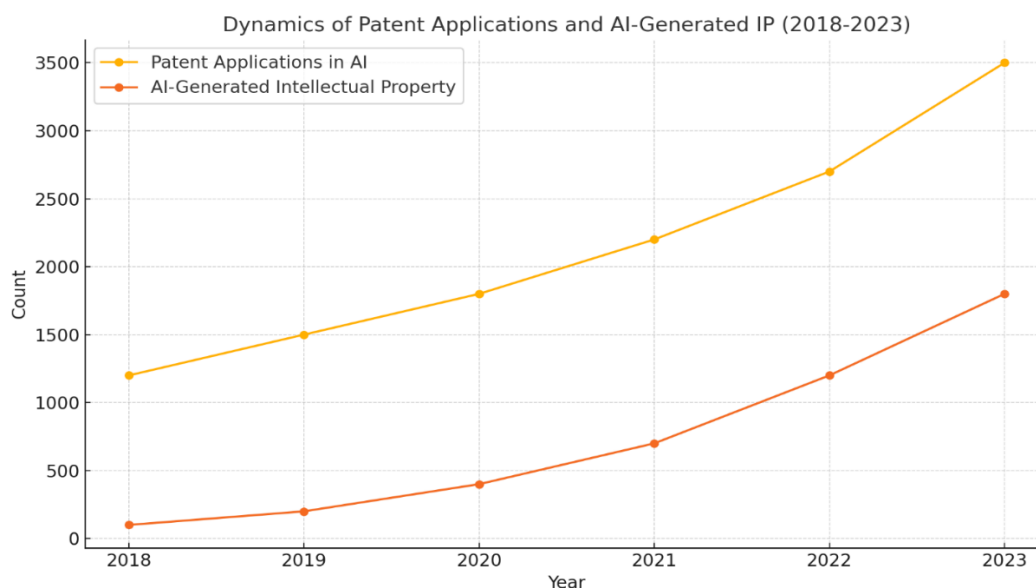


Figure 2. *Dynamics of patents filed and intellectual property objects created by AI (2018-2023)* Source: created by the author based on WIPO Technology Trends (2023), USPTO Annual Reports (2023), EPO Patent Index (2023), CNIPA Statistical Reports (2023), OECD AI and Intellectual Property Reports (2022), Statista (2023), McKinsey Global AI Survey (2023).

Patent growth dynamics in artificial intelligence reveal a growing trend from 2018 to 2023. From 2018 to 2023, 1,234 applications were filed, which increased to 3,526 in 2023, meaning an additional 2,292 applications. It grew on average by 19.78% per year. In 2022-2023, we saw the highest growth, with the number of applications rising by 802 or 29.45%. The rate of development of artificial intelligence innovations is clearly shown in this trend. More so was the even more significant increase in cases involving intellectual property objects created by AI. This was equal to 102 objects in 2018, then to 1,768 objects in 2023, representing an increase of 1,666. On average, it grew an annualised 57.03%. The most significant leap occurred between 2021 and 2023 when the number of homes rose from 721 to 1,768, an increase of 1,047 (145.24%). These dynamics show how AI is driving the creation of intellectual property.

The structure of the model for improving legislation in the sphere of artificial intelligence regulation and intellectual property protection, as presented in Figure 3, includes the basic components and their connections.

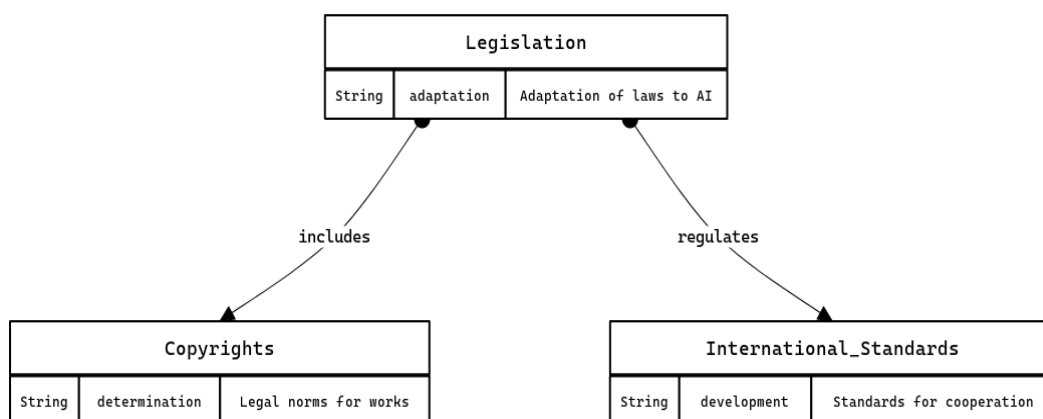


Figure 3. Structural model for improving legislation in artificial intelligence regulation and intellectual property protection. Source: created by the author

The diagram shows a structural approach to improving artificial intelligence (AI) regulation and intellectual property protection in the example case. Legislation is based on the idea that an existing legal norm has to reflect and fit the new conditions of using AI. This adaptation is necessary to properly guard rights to AI results and preserve the equilibrium of invention (Scheuerer, 2024).

The legislation includes two main areas: this work and the international standard. Copyright covers the development of explicit legal norms laying down the status of objects created using AI. For now, this is about the problems of authorship and the correct placement of such objects under our modern digital reality. It focuses on who is entitled to be recognised as the algorithm's author, the developer or owner of the AI system, or another party.

The second part, or component, is international standards, which focus on the necessity of international cooperation to produce universal standards. Harmonising approaches to protecting intellectual property created by AI and developed internationally will strengthen the development of global standards to protect intellectual property produced by AI. It will also prevent legal conflicts between states, help cross-border enforcement, and ensure fair rules of the game at the global level.

The diagram shows how local legislative initiatives are integrated with the international effort. This allows for the specificities of each jurisdiction to be accounted for while at the same time producing standard rules for the proper work of AI at the global level. The scheme also highlights that to deal with the issues brought by the fast development of artificial intelligence technologies, both internal and international coordination is important.

IV. CONCLUSION

This study finds that approaches to the legal regulation of artificial intelligence (AI) in the context of intellectual property (IP) are incredibly diverse, which we outline in this paper. Since no one global legal framework exists, harmonisation of standards is an even bigger

issue regarding cross-border IP protection. To take one example, the United States emphasises the need for human intervention as the condition for copyright protection, while in the European Union's draft Artificial Intelligence Act, transparency and security outweigh other concerns, but do not pose any clear guidelines concerning the AI-generated objects'.

However, it is a different position taken by China and the United Kingdom. State control over innovation is a primary focus in China; technology patenting is also encouraged for AI. The UK supports flexibility in current AI implementation, allowing AI programmes and algorithms to be regarded as objects of copyright or patents. At the same time, debate is ongoing surrounding the ownership of AI results. This is interesting because one of the most significant issues for all jurisdictions is proving ownership or the author of the rights to AI-generated objects. As in most countries, such works are beyond legal protection because human intervention is usually absent. That is a recipe for legal uncertainty that deters the growth of AI technologies and their appearance in the international economy. It is also unresolved whether international acts, such as the Berne Convention, shall be adapted to the new conditions of the AI creation. Global harmonisation of standards may solve legal conflicts and enable the effective regulation of IP rights internationally. Overall, the results support additional research to develop balanced legal regulation models. Additionally, further study should be conducted on forming protective mechanisms of IP rights while encouraging more innovative AI development.

V. ACKNOWLEDGEMENTS

The analysis of undisguised discrimination in regulatory spaces between different zones and the lack of a unified approach in the legal regulation of artificial intelligence in intellectual property at the global level was established as the insurmountable hindrance in international cooperation and protection of rights in international space. Drawing on the difficulty of determining authorship and ownership of objects produced by AI, the article suggests ways forward in dealing with some of the key challenges and, in doing so, stresses the need for appropriate adaptation of national and international legislation. The novelty of the work lies in the identification of the leading legal gaps, as well as in the proposal of models for harmonising legal norms to minimise conflicts between jurisdictions. The practical significance of the results obtained is that they can be used to develop universal standards for regulating the rights to objects created by AI. The study's main limitation is the insufficient empirical data, which necessitates further analysis of this topic. Promising areas for future research include analysing the impact of international standards on national legislation and assessing the effectiveness of the proposed approaches in different legal systems.

VI. REFERENCES

- [1] Al-Tarawneh, A., & Al-Badawi, M. (2024). Translating Intellectual Property: Safeguarding Corporate Assets Across Legal Systems. In S. Reyad & A. Hannon (Eds.), *A. Hannon & S. Reyad (Eds.), Frontiers of human centricity in the artificial intelligence-driven society 5.0 (Vol. 226), Springer, Cham* (pp. 545–557). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-73545-5_46
- [2] Batsurovska, I. B. ... Kurylen, V. M. (2024). Models and algorithms of machine learning in computer systems of artificial intelligence: New trends and prospects for development. *Modern Aspects of Sciences, XLVII*, 473–462.
- [3] Cristofori, M. (2024). Sustainability and Intellectual Property in Italy. In P. Këllezi ... B. Kilpatrick (Eds.), *P. Këllezi et al. (Eds.), Sustainability objectives in competition and intellectual property law. LIDC Contributions on Antitrust Law, Intellectual Property and Unfair Competition, Springer, Cham* (pp. 323–333). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-44869-0_17
- [4] Da Silva, M. ... Flood, C. M. (2022). Legal concerns in health-related artificial intelligence: a scoping review protocol. *Systematic Reviews, 11*(1), 123. <https://doi.org/10.1186/s13643-022-01939-y>
- [5] Giovannini, A., & Pasha, A. S. (2022). Artificial Intelligence: A Legal Landscape. In A. S. Pasha (Ed.), *A. S. Pasha (Ed.), Laws of Medicine, Springer, Cham* (pp. 387–404). Springer International Publishing. https://doi.org/10.1007/978-3-031-08162-0_25
- [6] Gulyamov, S. S. (2024). Legal Frameworks for the Integration of Artificial Intelligence. In V. Sontea ... S. Railean (Eds.), *V. Sontea et al. (Eds.), 6th International Conference on Nanotechnologies and Biomedical Engineering. ICNBME 2023* (pp. 144–149). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-42782-4_16
- [7] Kaplina, O. ... Verkhoglyad-Gerasymenko, O. (2023). Application of artificial intelligence systems in criminal procedure: Key areas, basic legal principles and problems of correlation with fundamental human rights. *Access to Justice in Eastern Europe, 6*(3), 147–166. <https://doi.org/10.33327/AJEE-18-6.3-a000314>
- [8] Kazeeva, I. (2024). Sui Generis Intellectual Property Protection for Works Generated by AI Systems. In I. Kazeeva (Ed.), *Perspectives in law, business and innovation, Springer, Singapore* (pp. 65–78). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-8897-6_5
- [9] Khodyko, Y. (2024). Legal Regime of Inventions Created by Artificial Intelligence. *Law, State and Telecommunications Review, 16*(1), 322–343. <https://doi.org/10.26512/lstr.v16i1.48972>
- [10] Klobucnik, L. (2024). Intellectual Property Regulation of Artificial Intelligence: A

- Matter of Time or a Step Too Far? In N. Naim (Ed.), *N. Naim (Ed.), Developments in intellectual property strategy*, Palgrave Macmillan, Cham (pp. 91–112). Springer International Publishing. https://doi.org/10.1007/978-3-031-42576-9_4
- [11] Kostenko, O. M. ... Aristova, I. V. (2024). “Legal personality” of artificial intelligence: methodological problems of scientific reasoning by Ukrainian and EU experts. *AI & Society*, 39(4), 1683–1693. <https://doi.org/10.1007/s00146-023-01641-0>
- [12] Kumar, S. ... Mirza, A. (2024). Digital Revolution, Artificial Intelligence, and Ethical Challenges. In S. Kumar ... A. Mirza (Eds.), *Digital transformation, artificial intelligence and society. Frontiers of Artificial Intelligence, Ethics and Multidisciplinary Applications*, Springer, Singapore (pp. 161–177). Springer Nature Singapore. https://doi.org/10.1007/978-981-97-5656-8_11
- [13] Magrani, E., & da Silva, P. G. F. (2024). The Ethical and Legal Challenges of Recommender Systems Driven by Artificial Intelligence. In H. Sousa Antunes ... L. Barreto Xavier (Eds.), *H. Sousa Antunes et al. (Eds.), Multidisciplinary perspectives on artificial intelligence and the law* (pp. 141–168). Springer International Publishing. https://doi.org/10.1007/978-3-031-41264-6_8
- [14] Mazzi, F. (2023). The Intersections Between Artificial Intelligence, Intellectual Property, and the Sustainable Development Goals. In F. Mazzi (Ed.), *F. Mazzi (Ed.), The 2022 Yearbook of the Digital Governance Research Group. Digital Ethics Lab Yearbook*, Springer, Cham (pp. 39–50). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-28678-0_4
- [15] Meyer, S. (2024). Legal Challenges of Artificial Intelligence and How to Manage Them. In T. Barton & C. Müller (Eds.), *T. Barton & C. Müller (Eds.), Artificial intelligence in application*, Springer, Wiesbaden (pp. 9–30). Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-43843-2_2
- [16] Naim, N. (2024). Artificial Intelligence Creations and Ownership – Who Should the Intellectual Property Belong. In N. Naim (Ed.), *N. Naim (Ed.), Developments in intellectual property strategy*, Palgrave Macmillan, Cham (pp. 1–24). Springer International Publishing. https://doi.org/10.1007/978-3-031-42576-9_1
- [17] Naim, N., & Chan, H. Y. (2024). Intellectual property and health technological innovation in the time of the pandemic. In *Law and Development Review*. <https://doi.org/10.1515/ldr-2024-0009>
- [18] Nguyen, D. N. A. ... Bui, K. H. (2024). Vietnam’s Regulation on Intellectual Property Rights Protection: The Context of Digital Transformation. *International Journal for the Semiotics of Law - Revue Internationale de Sémiotique Juridique*, 37(1), 259–278. <https://doi.org/10.1007/s11196-023-10076-1>

- [19] Nzoh Sangong, J. (2024). The Legal Framework of Artificial Intelligence in Cameroon. In F. Tchakounte ... R. P. Rajagopalan (Eds.), *F. Tchakounte et al. (Eds.), Safe, secure, ethical, responsible technologies and emerging applications. SAFER-TEA 2023 (Vol. 566), Springer, Cham* (pp. 20–34). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-56396-6_2
- [20] Pashkov, V. M. ... Soloviov, O. S. (2023). The impact of the introduction of artificial intelligence technologies on the current human rights and freedoms concept. *Polski Merkuriusz Lekarski*, 51(6), 646–653. <https://doi.org/10.36740/Merkur202306111>
- [21] Picht, P. G., & Thouvenin, F. (2023). AI and IP: Theory to Policy and Back Again – Policy and Research Recommendations at the Intersection of Artificial Intelligence and Intellectual Property. *IIC - International Review of Intellectual Property and Competition Law*, 54(6), 916–940. <https://doi.org/10.1007/s40319-023-01344-5>
- [22] Pikhurets, O. ... Hrekova, M. (2024). Cloud computing in private law. *Relações Internacionais No Mundo Atual*, 1(43), 615–637. <https://doi.org/10.21902/Revrima.v1i43.6692>
- [23] Puertas-Bravo, L. ... Piedra, N. (2024). Regulation of Artificial Intelligence: Challenges and Perspectives in the Andean Community. In I. Bianchi & G. A. Dávila (Eds.), *I. Bianchi & G. A. Dávila (Eds.), Knowledge management and artificial intelligence for growth* (pp. 221–244). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-65552-4_11
- [24] Razmetaeva, Y. (2024). Artificial intelligence and the end of justice. *BioLaw Journal - Rivista Di BioDiritto*, 1, 345–365. <https://doi.org/10.15168/2284-4503-3001>
- [25] Riswandi, B. A. (2024). An Artificial Intelligence Invention Protection Model. In N. Naim (Ed.), *N. Naim (Ed.), Developments in intellectual property strategy, Palgrave Macmillan, Cham* (pp. 113–128). Springer International Publishing. https://doi.org/10.1007/978-3-031-42576-9_5
- [26] Scheuerer, S. (2024). Intellectual Property Law and Meta-Regulation – An Introduction to an Interdisciplinary Challenge. In F. Thouvenin ... C. Geiger (Eds.), *F. Thouvenin et al. (Eds.), Kreation Innovation Märkte - Creation Innovation Markets, Springer, Berlin, Heidelberg* (pp. 847–859). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-68599-0_54
- [27] Sharma, R. (2024). AI Copyright and Intellectual Property. In R. Sharma (Ed.), *AI and the Boardroom, Press, Berkeley, CA* (pp. 47–57). Apress. https://doi.org/10.1007/979-8-8688-0796-1_5
- [28] Shepitko, V. ... Demidova, E. (2024). Artificial intelligence in crime counteraction: From legal regulation to implementation. *Social and Legal Studios*, 7(1), 135–144.

<https://doi.org/10.32518/sals1.2024.135>

- [29] Vesala, J. (2023). Developing Artificial Intelligence-Based Content Creation: Are EU Copyright and Antitrust Law Fit for Purpose? *IIC - International Review of Intellectual Property and Competition Law*, 54(3), 351–380. <https://doi.org/10.1007/s40319-023-01301-2>
- [30] Villata, S. ... Wyner, A. (2022). Thirty years of artificial intelligence and law: the third decade. *Artificial Intelligence and Law*, 30(4), 561–591. <https://doi.org/10.1007/s10506-022-09327-6>
- [31] Yadong, C. (2024). Application of Artificial Intelligence Rule of Law. In C. Yadong (Ed.), *C. Yadong (Ed.), Blue Book on AI and Rule of Law in the World (2022). Artificial Intelligence and the Rule of Law, Springer, Singapore* (pp. 283–346). Springer Nature Singapore. https://doi.org/10.1007/978-981-97-1060-7_7
- [32] Zhang, H. ... Wu, W. (2024). Artificial Intelligence for Text Generation: An Intellectual Property Perspective. In F. Zhao & D. Miao (Eds.), *F. Zhao & D. Miao (Eds.), AI-generated content. AIGC 2023. Communications in Computer and Information Science (Vol. 1946), Springer, Singapore* (pp. 266–279). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-7587-7_23