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CHAPTER 1
MODERN TRENDS IN PUBLIC ADMINISTRATION

PECULIARITIES OF INFORMATION AND ANALYTICAL SUPPORT IN DECISION-MAKING WITHIN GOVERNMENT BODIES

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Abstract. *The modern world is increasingly entering the era of an information society, where the role of information becomes ever more significant. Information is accumulating rapidly and in large volumes, so quickly that people struggle to process and thoroughly comprehend the incoming information flow, leading to an overall reduction in usable information. In order to process relevant data effectively in the context of professional or other activities today, it is no longer sufficient to rely solely on traditional administrative experience to make informed management decisions. It is essential to incorporate scientific knowledge, comprehensive awareness, analytical and forecasting skills, as well as socio-political responsibilities, with an appropriate recognition of these processes. This is particularly relevant for public administration bodies—both central and regional levels of executive state power—and increasingly for local government authorities, which are gaining more authority as part of the decentralization process. In Ukraine, in particular, the ideology and framework for interaction between the state and society are changing, with an increased use of decentralization mechanisms that delegate specific functions and powers from state bodies (to varying degrees) to the level of territorial communities and even to civil society. The purpose of this article is to define the peculiarities of information and analytical support in the decision-making process within government bodies. The article systematizes approaches to information and analytical support in public administration. It identifies the subjects and objects of the information and analytical support system in state management processes and specifies the goals of such support. It justifies the need to highlight the key elements of the information and analytical support system for public administration. The article also outlines the principles guiding information and analytical activities conducted by government and local authorities. Levels of information and analytical work are established, taking into account the temporal dimension. Furthermore, the article identifies issues with information and analytical support in government bodies in Ukraine and suggests ways to address these challenges.*

Keywords: *information and analytical support, managerial decision-making, government bodies, information technology, e-governance, globalization.*

JEL Classification: H 70, H73, R 50, R 58, D 80

Formulas: 0; fig.: 3; table: 0; bibl.: 16

Introduction. Modern trends in the development of the national economy raise the issue of seeking new forms, approaches, and management methods at all levels of the national system to ensure high competitiveness for the country and improve the quality of life for its population. Addressing this issue involves tackling the reproduction of productive forces, implementing socio-economic development projects, and meeting the population's basic social needs. A significant role is given to the region, where economic, human, and social needs are met, and the innovative capacities of society are created and renewed. The level of economic development in the country is generally determined by indicators of regional economic development.

Consequently, forming new approaches to regional management of economic processes and exploring new qualitative issues in territorial governance have become highly relevant scientific and practical tasks. In the context of active development and dissemination of information society standards in Ukraine, effective management of various resources and processes at the regional level, including its territorial and economic units, has gained particular importance. With the advent of new information technologies based on the implementation of computing equipment, communication systems, and telecommunications, information has become a constant and essential attribute of the state, legal entities, public organizations, and citizens. Many decisions, from the head of state down to the people, depend on the quality, accuracy, and speed of information retrieval.

Literature Review. The topic of information and analytical support in the decision-making processes of government bodies has been extensively covered by both foreign and domestic researchers. However, despite the existing contributions to this field, there is still a wide range of theoretical and practical issues that require further investigation, development, and improvement.

A significant amount of research focuses on the formation and optimization of information and analytical systems within the public sector. Taraban (2005) discusses the establishment of decision-making systems for local state executive authorities, emphasizing the need for structured frameworks that facilitate informed decisions. Similarly, Vyshnevskyi and Khmelnytska (2004) explore the application of competence profiles for personnel management in civil service, highlighting the importance of analytical tools in effective human resource management within governmental structures.

Research by Ivanova and Piddubna (2007) delves into the nuances of record-keeping in public administration, an area crucial for maintaining data integrity and ensuring that decision-makers have access to accurate and timely information. Tsiutsiura, Kryvoruchko, and Tsiutsiupa (2012) further contribute by examining various models of decision-making, underscoring the theoretical foundations that support robust governmental decision-making processes.

The role of information systems in management is explored by Novak (2008), who discusses how these systems support not only decision-making but also the broader management functions in government. Similarly, Teleshun, Somin, and Tytarenko (2008) focus on political analytics as a subset of information support, analyzing its impact on public authorities' ability to make data-driven decisions.

Theoretical advancements are also highlighted by Bakumenko (2000), who addresses the challenges in forming public administration decisions, exploring both methodological and practical aspects. Vyrovyi (2014) and Sarychev (2017) contribute to the understanding of information and analytical support as essential components in public administration, with Sarychev emphasizing it as a distinct type of information support that shapes decision-making processes within the public sector.

More recent studies have addressed the influence of digitalization on public administration. Koval and Dudetskyi (2024) analyze how digital tools can enhance administrative mechanisms, offering insights into the evolving nature of decision-making in a digital context.

Overall, while the literature on information and analytical support for decision-making in government bodies is rich and diverse, there remains an ongoing need for research that addresses new challenges brought by technological advancements and the increasing complexity of governance.

Aims. The aim of this article is to determine the specific features of information and analytical support in decision-making processes within the activities of public authorities.

Methodology. To examine the peculiarities of information and analytical support in decision-making within government bodies, this study employs a combination of qualitative research methods aimed at exploring and understanding the systemic processes involved. The methodology comprises the following key approaches:

- *Observation and generalizatio* - through systematic observation of the current practices in information and analytical support within various government bodies, the study identifies common patterns and trends. This method helps in understanding the scope and nature of information systems used, the efficiency of analytical support, and the specific challenges faced by public administrators in their decision-making processes. Observational data is then generalized to highlight recurring themes and fundamental issues in the implementation of information support systems.
- *Organizational analysis* - this method involves examining the structure and functioning of information and analytical support systems across different levels of government. By studying these organizational elements, the research delineates the interrelations among components such as data collection, processing, dissemination, and utilization. It also helps to identify gaps in communication and technological infrastructure that may hinder effective decision-making.
- *Scientific generalization* - this technique is used to derive conclusions from observed data, allowing for the development of theoretical insights based on empirical findings. Scientific generalization enables the formation of conceptual models that explain the dynamics of information flow and analytical processing within the context of public administration. By generalizing the data, this study aims to provide a theoretical framework that can be applied to analyze information and analytical support systems in various government settings.
- *Case study methodology* - the study also utilizes case studies of selected regional and national government bodies to understand the practical application of

information and analytical systems. These case studies provide in-depth insights into how these systems support or hinder decision-making processes, especially in response to complex socio-economic challenges. Case studies offer specific examples of both successful practices and limitations within existing frameworks.

– *Comparative analysis* - to contextualize the findings, this study compares information and analytical support practices across different administrative levels, including local, regional, and national. The comparative approach provides a broader understanding of how different layers of government address similar challenges and may reveal best practices or common pitfalls.

Through these research methods, the study aims to provide a comprehensive analysis of information and analytical support within public administration, contributing to the development of improved decision-making frameworks that are responsive to modern socio-economic demands. This methodology also allows for an exploration of how information technologies can be better integrated into governmental processes, ensuring accuracy, timeliness, and relevance of information available to decision-makers.

Results. The intensification of globalization's influence on societal processes is driven by the formation of a global information society, in which information becomes a strategic resource. This shift necessitates a change in the paradigm of informational and analytical support for the activities of government authorities and local governments in Ukraine.

Overcoming external constraints is particularly important and challenging for the system of public administration. Internal constraints are more closely related to the circulation of systemic information, which increases with each cycle, level, and differentiation, among other factors. Consequently, environmental constraints recede into the background and only become evident when they reach a critical point of irreversible processes. This complicates the process of making timely management decisions, resulting in increased costs and significant, irreversible negative consequences that are increasingly difficult to address at the local level, especially when the problem appears more substantial at the national level [1].

Informational and analytical support is a systemic concept comprising two interrelated elements:

- *Information-related:* a relatively independent activity carried out by specially trained specialists engaged in searching for, selecting, processing, accumulating, summarizing, and preserving information units (the first stage in the process of informational and analytical support within the management system).
- *Analytical:* a derivative second stage in the informational and analytical support process within the management system, involving the production of new knowledge by specially trained professionals based on available information units and analytical processes regarding the studied phenomenon or event [2].

The informational and analytical sphere can be defined as a set of subjects and connections among them, directly related to this system and/or existing outside of it, aimed at determining, evaluating, and forecasting internal system influences and

environmental impacts within a specific historical period, current status, and future prospects of the system.

Researcher L. Piddubna notes that "the comprehensive resolution of informational and analytical support tasks for state authorities lies in creating an integrated, effective nationwide informational and analytical system capable of forming an information environment that permeates all levels of state governance, provides an accurate picture of the country's life, and forms the basis for the leadership to make well-founded decisions" [3].

S. Tsyutyupa emphasizes the importance of standards that fully disclose information and the duty of public authorities to publish information about their activities. He also highlights promoting a culture of open government, prioritizing public interest in information dissemination, facilitating access to information, ensuring cost-effective realization of the right to information, and enhancing transparency in government operations and legislative regulation [4].

H. Mostovyi views the implementation of modern information and communication technologies and the improvement of informational support in public administration systems as new strategies for administrative transformations. He argues that "a significant characteristic of the modern state's activity is its level of informational and analytical support, which substantially influences all processes of socio-economic development. Global experience in improving public administration demonstrates that informational and analytical support should be considered one of the strategic directions for enhancing effectiveness at all levels—national, sectoral, regional, and international" [5].

Informational and analytical activity is a specific type of informational activity associated with identifying, processing, storing, and disseminating information, primarily in the fields of managerial, political, and economic activities. Therefore, the system of informational and analytical support for management should be defined as an interconnected and structured set of organizational, legal, informational, methodological, and technological components that ensure the necessary quality of decision-making. This involves combining problem-oriented principles with a program-targeted approach, both in terms of information support topics and information selectivity. This is critical because, for management, politics, and economics, it is essential not only to have timely access to primary information but also to proactively identify problem situations and forecast event developments [6].

Understanding informational and analytical support for public administration bodies as a subsystem of the state mechanism and an element of the information society requires strategic planning. It relies on both traditional hierarchical-administrative and program-targeted approaches, focused on providing information support and justification for public management decisions through monitoring, collecting, processing, and disseminating comprehensive information regarding actions, phenomena, and facts of socio-political reality. This process involves employing new information and communication technologies, implementing expert procedures and technologies, summarizing materials, and presenting the results to decision-makers.

The need for such information is driven by the transition of government structures to predictive forms of activity, using multi-variant models of event development. This approach requires not just stating facts to prove a thesis but a systematic approach to solving problems, combining human intellectual abilities with the functional capabilities of modern automated information systems [7].

Therefore, informational and analytical activity encompasses a set of actions and measures based on the concept, methods, and means, as well as regulatory-methodological materials for collecting, accumulating, processing, and analyzing data through information technologies. In this process, systematically defining the range of issues arising in the basic activities of information consumers, analyzing them, and forecasting development trends become particularly important. It is this orientation towards anticipation and identifying trends in the situation that dictates the prevalent use of various analytical methods for information processing.

Predicting the paths of situation development requires generalizing information and evaluating it, which involves using methods of generalization, abstraction, and modeling based on specific principles (Figure 2).

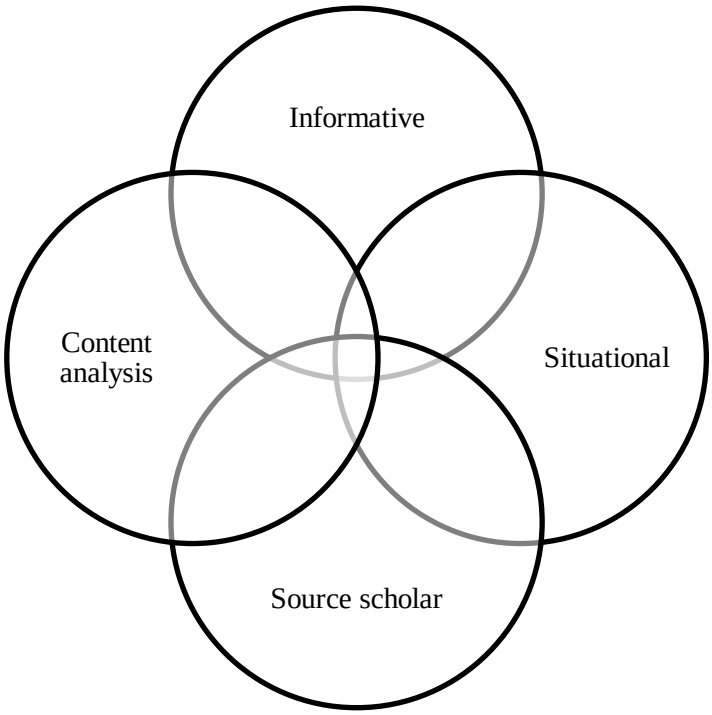

Figure 1. Analytical methods of information processing

Source: systematized by the author based on [8]

In the spatial dimension, the analytical work of local government authorities is directed toward both the internal and external environments.

In the temporal dimension, three levels of informational and analytical work can be distinguished (Figure 3).

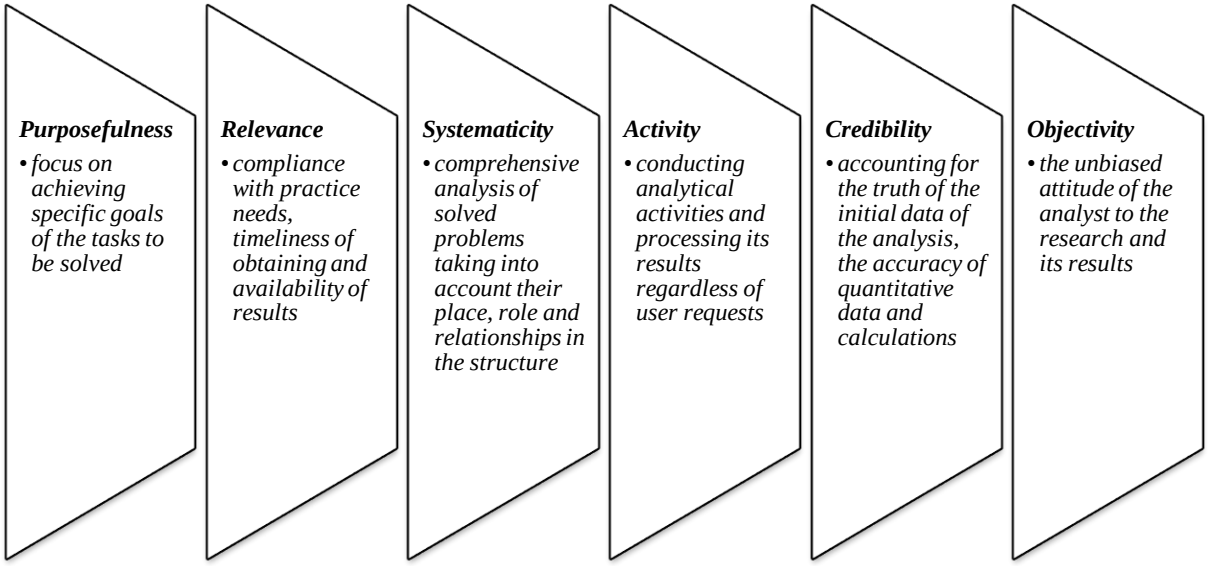

Figure 2. Principles of conducting information and analytical activities by state authorities and local self-government bodies

Source: created by the author based on [9]

The essence of the structural-functional organization of the analytical sphere within the public administration system is determined by the specifics of the information and communication processes in which this system is involved. Establishing and maintaining both internal and external communications within the organization, which support the organization's functioning and the management process, is a crucial aspect. Moreover, the information and analytical domain of the system may have different characteristics and objectives depending on the types of information exchange established between the system and the external environment.

Public administration information can vary not only in content but also in its source. S. V. Vyrov distinguishes between the "business environment" of the administrative system, which directly impacts organizational effectiveness, and the "contextual environment," which indirectly affects the organization [11].

The combined effects of these environments lead to a focus primarily on specialized administrative functions rather than on the integrity of interactions with the environment, resulting in a major limitation of the administrative system—a lack of responsiveness and flexibility to changes, and the emergence of inertia in administrative thinking. This limitation is evident in the disconnect between the public administration system and society.

It should be noted that the current level of information and analytical activity within government bodies is unsatisfactory. This is due to several factors, including disorganized information relationships among governmental bodies when organizing information exchange; the absence of a local network among local executive authorities in Ukraine, a unified information and telecommunications hub for information exchange and processing; inadequate software and hardware resources for local executive authorities and their inefficient use; a low level of IT expertise among personnel in district-level local executive authorities and local self-government bodies;

and the absence of an analytical database, a systematic and comprehensive information fund with a robust reference system, and telecommunications networks that enable access to external organizational resources [12].

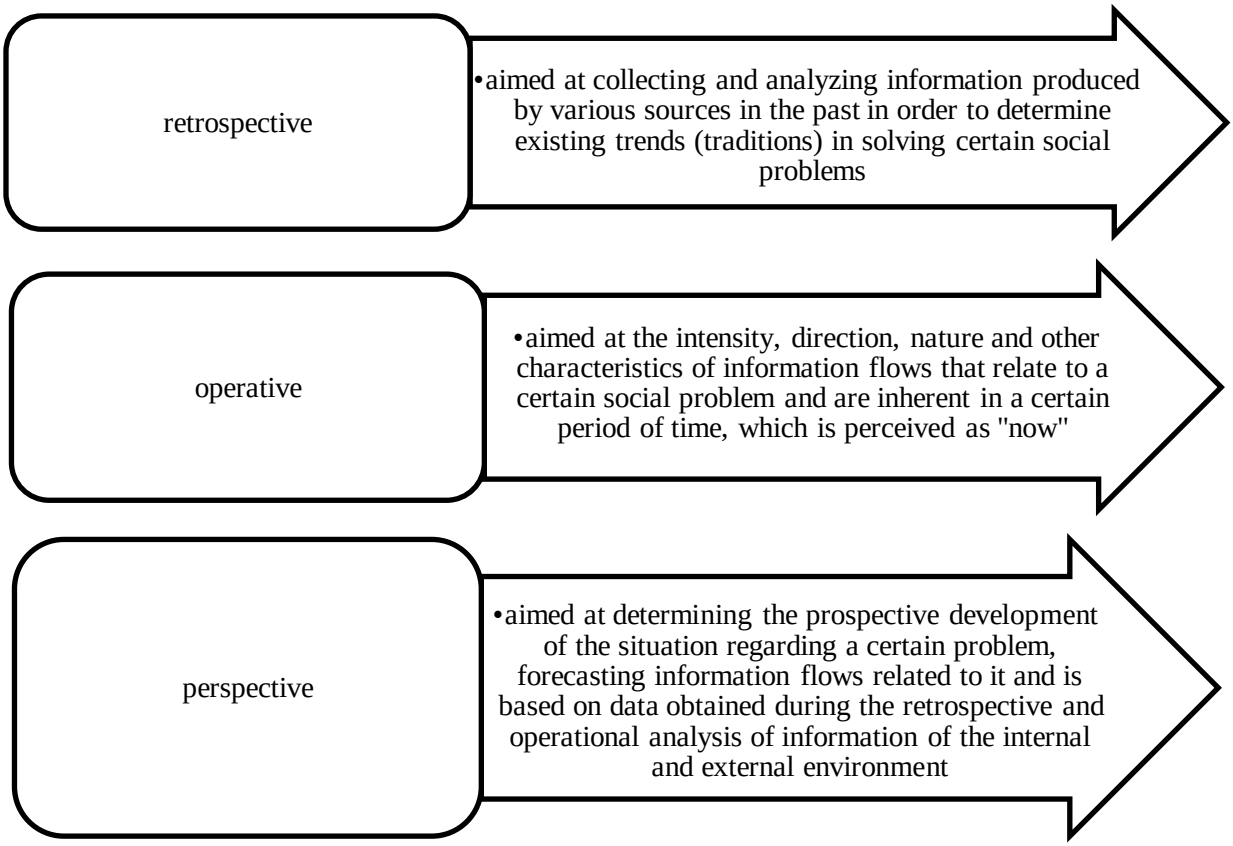

Figure 3. Levels of Information and Analytical Work Considering the Temporal Dimension

Source: Formulated by the author based on [10]

The unsatisfactory level of information and analytical activity in government structures is attributed to various objective factors, notably the complexity and isolation of these systems from dynamic changes within the structure of public administration, as well as the inaccuracy and incompleteness of information that government bodies work with, which is caused by both a lack of resources to obtain it and insufficient interaction among Ukrainian government bodies.

To address these issues, it is essential to recognize that the effectiveness of information and analytical activities can be enhanced by the implementation of e-governance. This form of public administration organization aims to increase the efficiency, openness, and transparency of the activities of government bodies and local self-government through information and telecommunications technologies, focusing on meeting citizens' needs. The goal of implementing e-governance in Ukraine is to foster electronic democracy to meet European standards of quality for electronic public services and to ensure government openness and transparency for citizens, civil society organizations, and businesses [13].

The implementation of e-governance is urgently needed to address the following priorities:

- ensuring high-quality governance at both the national and societal levels;
- improving interactions among government bodies, businesses, and citizens;
- increasing public trust in the government, improving the quality of public services, and reducing the costs of maintaining the public sector;
- enhancing the engagement of citizens and businesses in economic formation and policy-making;
- increasing national economic competitiveness and Ukraine's international image;
- reducing the administrative burden on organizations and citizens associated with submitting information to government bodies, decreasing the number of citizen requests for public services, and shortening wait times by improving the speed of interaction among government bodies through information and communication technologies;
- guaranteeing a level of informational openness and transparency in government activities, boosting public trust and engagement, and reducing the time required for citizens to exercise their constitutional rights and duties by creating new and upgrading existing departmental websites on the Internet [14].

To develop a unified national information space and expedite its integration into global information, it is necessary to:

- develop the national information and communication infrastructure;
- formulate a comprehensive set of regulatory documents for the development of an information society and the implementation of e-governance;
- stimulate public demand for e-governance services by better fulfilling needs for efficient and fast access to public services [15].

A critical factor in the effectiveness of information and analytical activities of government bodies and local self-government is the formation of a professional community of political analysts, establishing a scientific space that integrates practicing analysts with specialists in theoretical political science, fostering the development of quality standards for applied political research, and creating databases that can produce verifiable, effective knowledge. This would contribute to developing a professional culture, as forming a community of applied political analysis and forecasting experts represents a significant step toward overcoming manipulative practices in public opinion, moving analytical structures away from their image as "centers of influence," and establishing a system in which public policy decisions are based on objective scientific data. It would also allow for setting strategic priorities that consider the needs of both the government and civil society [16].

Practice shows that the improvement of the civil service as an information-communication system is influenced by organizational measures, meaning that a unified (integrated) system of national, regional, and local information and analytical services should be created and continuously improved.

Discussion. The discussion on the peculiarities of information and analytical support in decision-making within government bodies reveals several critical insights that address both existing challenges and potential areas for development. The findings underscore the essential role of information as a strategic resource in contemporary

governance, particularly at the regional level, where it serves as the foundation for socio-economic development and competitiveness.

A key aspect of information and analytical support in government is its dual nature, combining both informational and analytical functions. This duality is necessary to effectively transform raw data into actionable insights for decision-makers. The results illustrate that the current state of information and analytical activities in Ukraine's public sector is hindered by various organizational and technical limitations, such as fragmented information systems, insufficient technological infrastructure, and limited staff competencies. These issues are not isolated; they reflect broader systemic challenges in public administration that impact the efficiency and responsiveness of government bodies.

The research also highlights the significance of external and internal constraints that public administration faces. External constraints, such as the pressures from globalization and the need to integrate into the global information society, require public authorities to adapt to international standards of transparency, accountability, and responsiveness. Internal constraints, on the other hand, are largely due to outdated organizational structures and limited access to quality information, which impede effective decision-making. These constraints suggest a pressing need for government bodies to adopt comprehensive information and communication technologies (ICT) and embrace e-governance principles.

The implementation of e-governance emerges as a promising solution to many of these challenges. By enabling streamlined information flows, reducing redundancies, and promoting transparency, e-governance can significantly enhance the quality of public services and improve the trust between government bodies and citizens. This transformation, however, demands substantial investment in both infrastructure and human resources. Public officials require training in digital literacy and data management to effectively utilize modern analytical tools. Additionally, creating an integrated information network that connects various levels of government would ensure a cohesive approach to information and analytical support.

The research indicates that an effective public administration system should be adaptable, capable of responding to changes in both the internal and external environment. To this end, a transition from an "executive" model of governance to a "service-oriented" model is proposed. This shift emphasizes the importance of stakeholder engagement, proactive information dissemination, and a commitment to public interest, which are all fundamental for fostering a culture of open government.

Furthermore, the study advocates for the creation of a professional community of political analysts who can bridge the gap between theoretical and practical aspects of public administration. This professionalization would contribute to a higher standard of analytical work within the government, facilitating evidence-based policy-making and improving the overall quality of governance.

While there are substantial challenges to optimizing information and analytical support within Ukrainian government bodies, there are also significant opportunities for improvement. Adopting e-governance, enhancing the skills of public officials, and fostering a culture of transparency are all steps that can contribute to a more effective

and responsive public administration system. The success of these initiatives will largely depend on the government's ability to adapt its structures and processes to the demands of an increasingly information-driven society. This approach will not only improve decision-making processes but also support Ukraine's broader objectives of socio-economic development and global competitiveness.

Conclusions. Information in the public administration process should be viewed as a set of various messages and data about relevant objects, phenomena, processes, relationships, etc. Once collected, systematized, and transformed into a usable format, this information plays a crucial role in public administration. This characterizes the public administration information system as open to interaction with other societal information systems, which is an important factor in developing the information and analytical support system for public administration.

For the realization of a socially-oriented public administration system, aligning its content with socio-economic development strategies and determining the scientific methodology for its formation, activities aimed at improving the feedback mechanism (communication) between the subjects and objects of information policy are significant. The systemic approach to the formation and implementation of public information policy helps to identify key subsystems.

When improving the organizational forms of information and analytical support bodies, it is advisable to strive for the unification of information and analytical activities by creating special units within government bodies with a standard format for describing information and analytical subdivisions and a unified methodology for conducting information and analytical work. The unification mechanism for information and analytical support bodies should operate within the framework of a unified system. At the same time, recognizing that the organization of bodies engaged in information and analytical activities is determined by the specifics of the public authorities they belong to, the unification process for information and analytical support bodies remains essential.

It is also worth noting that district state administrations require modern information and analytical support and the development of information competence among officials given the disorderly state of information flows, which underlines the need to consider these issues during the reform of the district-level executive branch.

The substantial gap between the information and analytical support needs of district state administrations and the qualifications of their staff, along with the high level of information overload on officials, emphasizes the importance of establishing a targeted training and professional development system for specialists in this area. In particular, officials should acquire knowledge and skills related to expanding the range of information sources considered in decision-making, selecting necessary information, verifying its accuracy, analyzing alternative information, and establishing feedback mechanisms.

This indicates that information and analytical support for district state administrations requires significant enhancement. The current system adheres to an "executive" model of activity organization. However, the transition to a "service" model, which is necessary, will demand that officials broaden the information

environment for decision-making, ensure transparency, and establish effective feedback with private and public sector institutions.

Moreover, adequate interpretation of information from the environment is necessary, which, in turn, requires the involvement of information and analytical resources from the private and public sectors. Consequently, it is essential to organize incoming information flows to ensure a balanced presentation of information from all sources, considering the functional workload for public administration and the community. From an internal process perspective, modifying the internal information flow should aim to simplify information receipt and processing procedures and organize information flows within the district administration. The outcome of this approach should be faster information processing, more balanced information load distribution among officials, and an accelerated information exchange process.

To further develop and institutionalize the information and analytical activities of public administration and local self-government, it is necessary to:

- bridge the gap between academic science and practical politics, which is feasible only by creating a community of applied political analysis professionals;
- develop a comprehensive set of regulatory documents for the development of an information society and the implementation of e-governance in Ukraine;
- establish a system for training professional staff in information activities and applied political analysis to improve information and analytical work within the public service.

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NAVIGATION IN E-GOVERNMENT: THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE FORMATION OF THE LEGAL FRAMEWORK FOR THE PROTECTION OF INTELLECTUAL PROPERTY RIGHTS

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Abstract. *The integration of artificial intelligence (AI) into electronic government (e-government) systems is revolutionizing public administration by enhancing efficiency and improving service delivery. However, the adoption of AI technologies in this context also raises complex legal challenges, particularly concerning intellectual property (IP) rights. Traditional IP laws, which were developed with human authorship in mind, struggle to accommodate the unique characteristics of AI-generated content. This article examines how AI is reshaping the legal framework for IP protection within e-government systems, highlighting the implications and challenges that arise from this technological shift. The primary aim of this study is to explore the role of AI in the formation of IP law frameworks within e-government, focusing on how current laws address - or fail to address - the challenges of AI-generated content. The methodology includes a comprehensive literature review, analysis of legislative documents, case studies, and a benchmarking analysis to compare approaches across jurisdictions. Additionally, expert interviews provide insights into practical considerations and emerging trends in the field. The results indicate that while some jurisdictions, such as the European Union, are actively adapting their IP laws to address AI's impact, most existing frameworks remain inadequate for protecting AI-generated works. Divergent approaches across countries reveal a lack of international harmonization, which complicates cross-border collaboration and legal enforcement. The analysis also highlights the importance of public-private partnerships and sector-specific IP protections, which can address the unique needs of different e-government applications. From a forward-looking perspective, the study underscores the need for flexible, AI-specific IP protections that promote innovation while safeguarding IP rights. International cooperation will be essential for establishing consistent standards, facilitating global e-government initiatives, and supporting the responsible use of AI in public services. By fostering a balanced and adaptive IP framework, policymakers and stakeholders can help build a resilient digital ecosystem that accommodates future advancements in AI technology.*

Keywords: *e-government; artificial intelligence; intellectual property law; AI-generated content; legal framework; intellectual property rights; digital public services; IP protection; international harmonization; public-private partnerships; policy adaptation; copyright and patent law.*

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Introduction. In today's digital age, electronic government, or e-government, has transformed how public services are delivered, leveraging technology to streamline interactions between government entities and citizens. As these digital systems evolve, artificial intelligence (AI) emerges as a powerful tool, offering unprecedented efficiencies and insights. However, this technological shift also raises complex legal questions, particularly concerning intellectual property (IP) rights. As AI increasingly influences decision-making processes, data management, and content creation, the need for a robust legal framework becomes evident. This article explores how AI is shaping the development of laws that protect intellectual property within the context of e-government, examining the opportunities and challenges of integrating advanced technologies into public administration. From safeguarding digital assets to redefining ownership in the AI-driven world, the evolving landscape of IP law is poised to become a cornerstone of future e-government strategies.

Aims. The primary aim of this article is to explore the intersection of electronic government (e-government), artificial intelligence (AI), and intellectual property (IP) law. The article will examine how AI technologies are reshaping the legal frameworks that protect IP rights within the context of e-government systems. By analyzing this evolving landscape, the article seeks to provide insights into the implications and potential challenges that arise from the integration of AI into public sector processes.

Methodology. This article employs a multi-faceted approach to explore the relationship between electronic government, artificial intelligence, and the formation of legal frameworks for intellectual property rights protection. The methodology includes a comprehensive literature review, analysis of legislative documents, case studies, and a benchmarking analysis to compare approaches across jurisdictions. Additionally, expert interviews provide insights into practical considerations and emerging trends in the field.

Literature Review. The rapid advancement of artificial intelligence (AI) technology has ushered in new opportunities for electronic government (e-government) systems, which utilize digital tools to improve public administration. E-government aims to enhance the delivery of services to citizens and optimize the efficiency of governmental processes. As AI becomes increasingly integrated into these systems, there is a growing need to consider how these technologies impact intellectual property (IP) rights and the legal frameworks that protect them.

E-Government and AI Integration. E-government initiatives across the globe have adopted AI to automate tasks, improve decision-making, and facilitate better data management. Literature on this integration highlights the potential benefits of AI, such as increased efficiency and cost-effectiveness, as well as potential risks related to privacy, security, and ethics. Key studies suggest that while AI has the potential to revolutionize public service delivery, its application raises significant legal and regulatory challenges, particularly concerning IP rights (Sahlin & Angelis, 2020; Dwivedi et al., 2021).

Intellectual Property Rights in the Age of AI. The incorporation of AI into public administration raises complex questions about IP rights. The unique capabilities of AI, such as the ability to generate creative works and develop autonomous solutions, blur

traditional definitions of ownership and authorship. Existing IP laws were designed for a time when human authorship was a fundamental assumption, and as such, they are not always equipped to address AI-generated content (Gervais, 2021; Abbott, 2020). Scholars have pointed to the need for updated IP frameworks that account for AI's role as a creator, suggesting that new models of ownership and attribution might be necessary (Elkin-Koren, 2020).

Challenges in Establishing Legal Frameworks. Many jurisdictions are currently grappling with how to adapt their IP laws to accommodate AI. Some have opted for a cautious approach, modifying existing frameworks incrementally, while others are exploring more comprehensive overhauls. This varied landscape presents challenges for e-government systems that often operate across borders and depend on consistent legal interpretations (Samuelson, 2020; Bond et al., 2021). Furthermore, there are concerns regarding enforcement, as traditional IP enforcement mechanisms may not be effective for AI-driven content in the public domain (Lemley, 2020).

Proposed Solutions and Future Directions. A significant body of literature suggests that international cooperation and harmonization of laws will be essential to effectively manage IP rights in e-government contexts (Chon, 2021; Hilty & Liu, 2020). Some scholars advocate for the development of AI-specific IP protections that recognize AI's unique role in content creation (Ramalho, 2020; Petit, 2021). Others propose that governments establish frameworks that emphasize open access and data sharing, particularly for publicly funded AI projects (WIPO, 2021).

Overall, the literature underscores the importance of crafting legal frameworks that are flexible enough to accommodate technological advancements while robust enough to protect IP rights. As e-government systems continue to evolve, a balanced approach will be necessary to foster innovation and ensure that IP rights are safeguarded in an increasingly digital world.

Results. Current intellectual property (IP) laws face significant challenges in adapting to the complexities introduced by artificial intelligence (AI), especially in an AI-driven e-government context. Traditional IP laws are primarily designed to protect human-created works, and they do not readily extend to AI-generated content. Most jurisdictions, including the United States and the European Union, currently do not recognize AI as an author or inventor, limiting the scope of protection for works created autonomously by AI systems. This could stifle innovation, as organizations may hesitate to invest in AI technologies without clear IP protections.

A major issue is the uncertainty around copyright when it comes to training data for AI. Many AI models are trained on vast datasets that may include copyrighted material. This raises legal questions about whether such use constitutes infringement or falls under fair use.

In terms of patents, AI-generated inventions present similar challenges. Patent laws traditionally require a human inventor, which poses a problem when AI independently generates patentable innovations.

Analysis of Existing Intellectual Property Laws and Regulations. The analysis of existing intellectual property (IP) laws and regulations reveals several key insights into their suitability and adaptability to an AI-driven e-government environment. While

current IP frameworks provide robust protections for human-created works, they are often inadequate in addressing the unique challenges posed by AI technologies, particularly in the context of e-government systems.

Table 1 presents the main results of the analysis of existing laws and regulations on intellectual property.

Table 1. The main results of the analysis of existing laws and regulations on intellectual property

The main results of analysis	The main direction of analysis
Limitations of Traditional IP Frameworks	Authorship and Ownership Patent and Copyright Issues
Challenges in Copyright and Licensing	Copyright Eligibility for AI-Generated Works Licensing Complexities
Trade Secret and Data Protection Concerns	Trade Secrets Data Ownership and Privacy
Jurisdictional Variability and Inconsistencies	Lack of Harmonization Emerging Regulations
Opportunities for Legal Reform and Adaptation	Adaptation of Existing Laws Development of AI-Specific IP Protections Focus on Public-Private Partnerships

Source: systematized by the authors

1. Limitations of Traditional IP Frameworks

• *Authorship and Ownership:* Traditional IP laws typically assign rights based on human authorship, which presents challenges when applied to AI-generated works. In an AI-driven e-government context, where AI systems may autonomously generate content, the question of authorship becomes complex. Current laws do not clearly define whether an AI itself, the government entity deploying the AI, or a third-party developer holds ownership of the resulting intellectual property.

• *Patent and Copyright Issues:* Patents and copyrights are designed to protect original human innovations and creations. AI's ability to autonomously create content—such as datasets, reports, and predictive models—challenges the notion of originality and inventorship. As a result, AI-generated works may not meet existing criteria for patentability or copyright, limiting their protection under current laws.

2. Challenges in Copyright and Licensing

• *Copyright Eligibility for AI-Generated Works:* Many jurisdictions, including the United States and the European Union, lack clear guidance on whether AI-generated works qualify for copyright protection. Existing laws emphasize human creativity, and in the absence of a human creator, such works may be deemed ineligible for copyright. This gap presents a significant barrier to protecting AI-generated content in e-government, where copyrighted material might include data visualizations, automated reports, and policy documents.

• *Licensing Complexities:* AI's role in content creation introduces complexities in licensing agreements, particularly in shared or collaborative environments. Traditional licensing models may not account for the nuances of AI-driven content creation, requiring government agencies to navigate uncertain legal terrain when attempting to license or distribute AI-generated works.

3. Trade Secret and Data Protection Concerns

- *Trade Secrets:* AI-driven e-government systems often rely on proprietary algorithms and data processing techniques that may qualify as trade secrets. While existing IP frameworks protect trade secrets, AI complicates this by potentially exposing confidential information through automated processes and analytics. Protecting trade secrets in an AI environment requires robust safeguards and compliance with data protection regulations.
- *Data Ownership and Privacy:* Data generated or used by AI systems in e-government may fall under IP laws, particularly if it contains proprietary or personally identifiable information. However, existing IP regulations often fail to address the intersection of data ownership and privacy rights within an AI framework, which is particularly pertinent in public sector settings where transparency and data privacy are priorities.

4. Jurisdictional Variability and Inconsistencies

- *Lack of Harmonization:* IP laws vary significantly across jurisdictions, leading to inconsistencies in how AI-generated works are treated globally. This poses challenges for e-government systems that operate across borders or collaborate with international agencies. Jurisdictional differences can lead to legal uncertainties and conflicts, particularly when AI-generated works are shared or distributed internationally.
- *Emerging Regulations:* Some jurisdictions, like the European Union, are actively developing AI-specific regulations that address IP issues. However, these regulations are still in their infancy and vary widely in scope and application. The lack of a unified approach complicates efforts to adapt IP laws to AI-driven e-government environments, underscoring the need for international cooperation.

5. Opportunities for Legal Reform and Adaptation

- *Adaptation of Existing Laws:* There is an opportunity to amend current IP laws to explicitly address AI-generated content and clarify ownership, authorship, and protection rights. Such reforms could include recognizing AI as a co-creator or introducing new categories for AI-generated works to ensure they are protected.
- *Development of AI-Specific IP Protections:* In response to the limitations of traditional frameworks, some legal scholars advocate for new IP protections tailored specifically to AI. These might include AI-specific copyright categories, adaptable licensing agreements, or even new forms of protection that go beyond the traditional IP categories.
- *Focus on Public-Private Partnerships:* As e-government increasingly involves collaborations between public and private entities, there is potential to develop standardized IP agreements and protocols that ensure AI-generated content is effectively protected and fairly attributed.

The analysis indicates that existing IP laws, while providing a foundation, are not fully equipped to handle the unique demands of an AI-driven e-government environment. While opportunities for adaptation and reform exist, achieving a coherent and effective legal framework will require significant legal innovation, cross-jurisdictional harmonization, and ongoing collaboration among public and private stakeholders.

Analysis of Legislative Documents, Legal Interpretations, and Court Decisions. The analysis of legislative documents, legal interpretations, and court decisions reveals that current intellectual property (IP) laws are often ill-suited to address the specific challenges posed by artificial intelligence (AI) in the realm of intellectual property protection. While some jurisdictions have made strides in adapting to AI's unique role, there remain significant gaps in the legal framework. Table 2 presents the main Results of the Analysis of Legislative Documents, Legal Interpretations, and Court Decisions.

Table 2. The main results of the analysis of legislative documents, legal interpretations, and court decisions

The main results of analysis	The main direction of analysis
Authorship and Ownership Ambiguities	Legislative Gaps Legal Interpretations and Ownership
Patentability and Inventorship Issues	Court Decisions on Inventorship Patent Office Guidelines
Copyright Challenges with AI-Generated Content	Court Rulings on AI-Generated Works Interpretations of Legislative Documents
Challenges in Trade Secrets and Data Protection	Trade Secret Protections Data Ownership and Privacy Concerns
Emerging Legal Reforms and Adaptations	Legislative Proposals Court-Inspired Legal Innovations

Source: systematized by the authors

1. Authorship and Ownership Ambiguities

- *Legislative Gaps:* Most IP laws are predicated on the notion of human authorship, which is a fundamental requirement for copyright and patent protections. However, legislative documents from jurisdictions like the United States and the European Union have not yet established clear provisions for works generated entirely or partially by AI systems. This absence leads to uncertainty about whether AI-generated works can be legally protected and, if so, who holds the rights.
- *Legal Interpretations and Ownership:* Legal interpretations in various jurisdictions generally maintain that authorship requires a human creator, which leaves AI-generated works unprotected. For instance, the U.S. Copyright Office has consistently ruled that non-human creations do not qualify for copyright, emphasizing that authorship must involve "human creativity." This interpretation effectively excludes works autonomously created by AI from copyright protection, leaving them in a legal gray area.

2. Patentability and Inventorship Issues

- *Court Decisions on Inventorship:* Several court decisions have addressed AI's role in inventorship, with rulings consistently emphasizing that only human beings can be listed as inventors on patents. Notably, recent cases involving the AI system known as "DABUS" have sparked international debate. Courts in the United States, United Kingdom, and the European Patent Office have ruled that AI cannot be named as an inventor, despite arguments that AI systems contributed significantly to the inventions in question.
- *Patent Office Guidelines:* Patent offices in various countries have issued guidelines reinforcing that AI cannot be credited as an inventor. For example, the

European Patent Office specifies that inventorship is reserved for natural persons, limiting the recognition of AI-driven innovation and excluding AI-created inventions from patent protection. As a result, government agencies deploying AI in e-government initiatives may find their AI-derived innovations unpatentable under current laws.

3. Copyright Challenges with AI-Generated Content

- *Court Rulings on AI-Generated Works:* Court decisions have generally upheld the requirement for human authorship in copyright cases. For instance, the U.S. Supreme Court has previously ruled that works lacking human input are not eligible for copyright, reinforcing that AI-generated works are excluded from protection. This limitation affects e-government initiatives that rely on AI to produce creative works, such as automated reports, data visualizations, and software code, which remain vulnerable to copying and unauthorized use.
- *Interpretations of Legislative Documents:* Legislative documents often lack specific language that addresses AI-generated content, which leads to varied interpretations across jurisdictions. Some interpretations suggest that entities utilizing AI, such as government agencies, might hold rights through derivative works doctrines or by establishing joint ownership with AI developers. However, such interpretations remain speculative, as courts have yet to establish firm precedents that define these relationships clearly.

4. Challenges in Trade Secrets and Data Protection

- *Trade Secret Protections:* Trade secret laws offer protection for confidential information, and while they cover AI algorithms and data, challenges arise due to AI's capacity to generate new data autonomously. Courts have struggled with cases where AI systems inadvertently disclose sensitive information through analysis or predictions. This potential for unintended disclosure necessitates additional legislative safeguards to address AI-driven vulnerabilities in trade secret protections.
- *Data Ownership and Privacy Concerns:* Data privacy regulations, such as the General Data Protection Regulation (GDPR) in the European Union, provide some level of control over personal data. However, court decisions have yet to clearly delineate how these protections intersect with AI-generated data, particularly when it involves personally identifiable information. As e-government increasingly relies on AI for data-driven decision-making, courts will likely need to address these concerns through new interpretations or legislation that clarifies data ownership in AI contexts.

5. Emerging Legal Reforms and Adaptations

- *Legislative Proposals:* Some jurisdictions have introduced legislative proposals aimed at addressing AI's role in IP. For example, the European Union's proposed AI Regulation includes provisions for transparency and accountability, though it does not yet fully address IP ownership. These legislative initiatives are a step forward, but they often focus on ethical concerns and regulatory oversight rather than IP protection.
- *Court-Inspired Legal Innovations:* In a few cases, courts have encouraged legislative bodies to consider reforms that would allow AI-driven works to qualify for limited forms of IP protection. For instance, courts in Australia have signaled openness to exploring alternative IP protections for AI-generated works, even though current laws do not explicitly support such protections. These rulings indicate a potential future

shift toward recognizing AI as a contributor to protectable intellectual property, though substantial legislative change is needed for widespread applicability.

Overall, the analysis reveals that existing IP laws do not sufficiently address the challenges posed by AI in the e-government context. While some jurisdictions are exploring legislative reforms, current legal interpretations and court decisions consistently uphold the requirement for human authorship, leaving AI-generated works in a legal void. To create a robust framework that accommodates AI-driven innovation, especially in public sector applications, substantial legislative reform and the development of new legal precedents will be essential. This evolving legal landscape underscores the importance of ongoing adaptation and reform to protect intellectual property effectively in an AI-driven world.

Analysis of Relevant International Agreements and Recommendations. The analysis of international agreements and recommendations reveals a varied approach to addressing the challenges posed by artificial intelligence (AI) within the scope of intellectual property (IP) protection. While some global agreements provide general guidance on IP, they often lack specific provisions for AI-generated works, reflecting a global legal framework that is still evolving to meet the unique challenges of AI. Different jurisdictions have adopted diverse strategies, leading to a complex and fragmented international landscape. Table 3 presents the main results of the analysis of relevant international agreements and recommendations.

Table 3. The main results of the analysis of relevant international agreements and recommendations

The main results of analysis	The main direction of analysis
General IP Frameworks and AI	The TRIPS Agreement World Intellectual Property Organization (WIPO) Initiatives
Divergent National and Regional Approaches	European Union United States China
Emerging International Recommendations and Frameworks	OECD Principles on Artificial Intelligence UNESCO AI Ethics Recommendations
Challenges in Harmonization and Cross-Border IP Protection	Jurisdictional Variability Differences in Patent Eligibility
Opportunities for Future International Cooperation	Global AI Regulations Model Laws and Soft Law Approaches

Source: systematized by the authors

1. General IP Frameworks and AI

• *The TRIPS Agreement:* The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is a foundational international framework governing IP rights. While TRIPS sets minimum standards for IP protection, it does not directly address AI-related issues such as authorship or ownership of AI-generated works. As a result, countries adhering to TRIPS have significant leeway in interpreting IP protections for AI, leading to varied national approaches and a lack of uniform standards for AI-generated IP.

• *World Intellectual Property Organization (WIPO) Initiatives:* WIPO has taken steps to address AI's impact on IP. In recent years, WIPO has conducted consultations and published white papers exploring AI-related IP issues, but these have largely focused on facilitating dialogue rather than establishing binding agreements. WIPO's efforts indicate a recognition of the need for international coordination on AI and IP, but the lack of enforceable recommendations limits its immediate impact.

2. Divergent National and Regional Approaches

• *European Union:* The European Union has been proactive in establishing AI-specific regulations, most notably through the proposed AI Act. While the AI Act focuses on ethical and regulatory concerns, the European Commission has also published recommendations that encourage member states to adapt their IP laws to account for AI-driven innovation. However, these recommendations are not legally binding, resulting in varied implementations across EU member states.

• *United States:* The United States has maintained a largely status quo approach, relying on existing IP frameworks that emphasize human authorship and inventorship. The U.S. Patent and Trademark Office (USPTO) has sought public input on AI-related IP issues, but there has been no significant legislative movement to address AI's impact directly. This approach contrasts with more proactive stances elsewhere and underscores a reluctance to alter traditional IP protections for AI-generated works.

• *China:* China has positioned itself as a leader in AI development and has made moves to update its IP laws in response to AI's growing influence. In 2021, the National Intellectual Property Administration of China released guidelines that acknowledge AI's role in innovation, but detailed provisions on AI-generated works are still under development. China's approach indicates a willingness to adapt its IP framework to foster AI-driven growth, potentially setting a precedent for other countries in the region.

3. Emerging International Recommendations and Frameworks

• *OECD Principles on Artificial Intelligence:* The Organization for Economic Co-operation and Development (OECD) has issued AI principles aimed at promoting responsible AI use. While the principles address transparency, accountability, and human rights, they do not specifically cover IP issues. However, the OECD's recommendations encourage member countries to consider AI's impact on their regulatory frameworks, potentially influencing future IP-related reforms.

• *UNESCO AI Ethics Recommendations:* In 2021, UNESCO released recommendations on AI ethics, which include calls for the protection of IP rights in AI contexts. Although primarily focused on ethical considerations, these recommendations highlight the need for a global consensus on how AI interacts with IP laws. UNESCO's emphasis on harmonizing regulations could lead to more cohesive international standards, especially as countries look to align with these ethical guidelines.

4. Challenges in Harmonization and Cross-Border IP Protection

• *Jurisdictional Variability:* The lack of harmonized IP laws for AI-generated works has created challenges for cross-border IP protection. International agreements like TRIPS establish baseline standards but allow for significant national discretion.

This discretion has resulted in a patchwork of laws, with some jurisdictions recognizing AI-related IP issues while others do not. This inconsistency complicates the protection of AI-generated works across borders, as creators and rights holders face differing legal environments.

- *Differences in Patent Eligibility:* While international agreements promote cooperation on patent protections, AI inventions often face different standards of eligibility across jurisdictions. The European Patent Office and the USPTO, for instance, have divergent stances on the patentability of AI-driven innovations, particularly concerning AI's role in inventorship. Such differences highlight the challenges of achieving a unified international stance on patent eligibility for AI-related inventions.

5. Opportunities for Future International Cooperation

- *Global AI Regulations:* There is growing momentum for international cooperation on AI regulation, with organizations like WIPO and the OECD well-positioned to lead these efforts. A unified framework for AI-generated IP could emerge as a component of broader AI regulatory initiatives, which would address not only ethical and safety concerns but also legal protections for AI-driven works.
- *Model Laws and Soft Law Approaches:* Given the complexity of achieving binding international agreements, some experts advocate for the development of model laws or soft law instruments. These non-binding frameworks could provide guidance for national legislators, promoting consistency in how AI-generated IP is treated while allowing jurisdictions to retain flexibility. Model laws could serve as an interim solution, paving the way for more formal agreements in the future.

The analysis reveals that while international agreements provide a foundation for IP protections, they do not yet adequately address the specific challenges AI poses to IP law. Jurisdictions worldwide are beginning to explore AI-related IP issues, but divergent approaches complicate the creation of a cohesive global framework. Moving forward, international cooperation will be crucial to harmonize IP protections for AI-generated works, ensuring that legal frameworks can effectively support innovation and protect intellectual property on a global scale.

Benchmarking Analysis of AI Integration in E-Government and IP Law Approaches. The benchmarking analysis across various jurisdictions highlights notable differences in how countries are integrating artificial intelligence (AI) into e-government systems and addressing related intellectual property (IP) challenges. The comparison reveals varying levels of AI adoption, distinct strategies for IP law adaptation, and differing approaches to protecting AI-generated works within the public sector. Table 4 presents the key findings from this benchmarking analysis.

Table 4. The key findings from this benchmarking analysis of AI Integration in E-Government and IP Law Approaches

The main results of analysis	The main direction of analysis
Level of AI Integration in E-Government Systems	High AI Integration Moderate AI Integration Emerging AI Integration
Approaches to IP Law Adaptation for AI	Proactive IP Law Adaptation Traditional IP Law Reliance Flexible IP Adaptation
Treatment of AI-Generated Works	Recognition of AI-Generated IP Exclusion of AI-Generated Works Conditional Recognition
Focus on Public-Private Partnerships for IP Protection	Collaborative Models Sector-Specific Approaches
Jurisdictional Consistency and Harmonization Efforts	Efforts Toward Harmonization Fragmented Approaches

Source: systematized by the authors

1. Level of AI Integration in E-Government Systems

- *High AI Integration:* Countries such as Estonia and Singapore have been pioneers in adopting AI within their e-government systems. Estonia's X-Road platform leverages AI to facilitate secure data exchange across public and private sectors, while Singapore's GovTech uses AI to improve public services, such as predictive maintenance and citizen engagement. These nations have invested heavily in AI infrastructure, positioning themselves as leaders in digital government transformation.
- *Moderate AI Integration:* Countries like the United Kingdom and Canada have integrated AI into specific areas of e-government, focusing on data analysis, automation of public services, and predictive analytics. In the UK, AI is used in healthcare and social services to optimize resource allocation. Canada has implemented AI in areas like immigration processing and taxation. These countries show a cautious but progressive approach, balancing AI adoption with regulatory considerations.
- *Emerging AI Integration:* Nations such as Brazil and India are in the early stages of AI integration within e-government. While both countries have ambitious digital transformation plans, their focus has been primarily on building digital infrastructure and improving online service delivery. AI adoption remains limited to pilot projects and experimental applications in areas like education, agriculture, and citizen feedback systems.

2. Approaches to IP Law Adaptation for AI

- *Proactive IP Law Adaptation:* The European Union stands out for its proactive stance on adapting IP laws to AI advancements. The EU has proposed regulations, such as the AI Act, which seeks to establish clear rules for AI deployment and includes considerations for IP protection. EU member states are encouraged to update national IP laws to account for AI-generated content, with a focus on balancing innovation with rights protection.
- *Traditional IP Law Reliance:* The United States and Japan, despite their advanced AI sectors, primarily rely on traditional IP frameworks that emphasize human authorship and inventorship. Both countries have explored AI's impact on IP through public consultations and policy research but have yet to enact substantial legislative

changes. This approach maintains the status quo, potentially limiting the protection of AI-generated works within public sector applications.

- *Flexible IP Adaptation:* China and South Korea have adopted a more flexible approach, adapting existing IP frameworks to accommodate AI-driven innovation while providing room for future legislative updates. China has issued guidelines encouraging AI-friendly IP protections, particularly for patents. South Korea has introduced AI policies that recognize the need for IP reforms and is actively developing strategies to enhance protection for AI-generated works, particularly in collaboration with private sector stakeholders.

3. Treatment of AI-Generated Works

- *Recognition of AI-Generated IP:* The United Arab Emirates (UAE) has taken progressive steps by exploring ways to recognize AI-generated works under IP laws. The UAE government has launched initiatives to study AI's impact on IP, with a focus on enabling protection for government-created AI content. This approach is experimental but suggests a future direction where AI-generated works might be formally recognized under IP law.
- *Exclusion of AI-Generated Works:* Many jurisdictions, including the United States, United Kingdom, and Australia, adhere to IP laws that exclude AI-generated works from copyright protection, as these laws require human authorship. This exclusion leaves AI-generated works in the public domain or under uncertain legal status, complicating IP protection for AI-generated content in e-government applications.
- *Conditional Recognition:* Countries like Canada and Singapore have not formally recognized AI-generated works but are exploring conditional approaches that consider joint authorship models or derivative works doctrines. These countries are investigating whether IP rights could be assigned to entities deploying AI, provided they meet specific criteria, such as demonstrating significant human oversight or direction in the creation process.

4. Focus on Public-Private Partnerships for IP Protection

- *Collaborative Models:* The European Union and Japan are leading in fostering public-private partnerships to address IP concerns related to AI in e-government. These partnerships encourage knowledge sharing and collaborative IP protection models, with the goal of harmonizing AI standards across public and private sectors. The EU, for instance, promotes initiatives where government agencies and private firms co-develop AI solutions while sharing IP rights.
- *Sector-Specific Approaches:* The United States and India emphasize sector-specific IP frameworks for AI applications in areas like defense, healthcare, and agriculture. In the U.S., certain government contracts stipulate IP rights for AI solutions in defense and technology sectors, while India's IP initiatives focus on agriculture and public health. This targeted approach allows for tailored IP protections based on specific public sector needs.

5. Jurisdictional Consistency and Harmonization Efforts

- *Efforts Toward Harmonization:* The European Union's emphasis on harmonizing AI-related IP laws across member states sets an example for regional

consistency. By establishing cross-border standards, the EU seeks to reduce legal fragmentation and facilitate the deployment of AI across diverse national systems. Additionally, WIPO's AI Task Force encourages harmonization efforts through international consultations and recommendations for member countries.

- *Fragmented Approaches:* In contrast, countries with less formalized AI regulations, like Brazil and Russia, exhibit more fragmented approaches to IP law adaptation. Each jurisdiction tackles AI-related IP issues independently, leading to a lack of consistency in how AI-generated works are treated globally. This fragmentation poses challenges for international collaboration and may hinder the cross-border exchange of AI-driven e-government solutions.

The benchmarking analysis reveals a diverse landscape in how jurisdictions are integrating AI into e-government systems and addressing related IP challenges. While some countries are proactively adapting their IP laws to support AI-driven innovation, others rely on traditional frameworks that may not fully accommodate AI-generated works. As countries continue to develop their approaches, international harmonization and collaboration will be crucial for establishing consistent and effective IP protections for AI-generated content within e-government environments.

Recommendations for Policymakers, Lawyers, and E-Government Stakeholders. Based on the findings of the research, it is clear that existing intellectual property (IP) laws are not fully equipped to address the complexities introduced by artificial intelligence (AI) in digital public services. To ensure robust IP protections and foster innovation, policymakers, legal professionals, and e-government stakeholders should consider the following recommendations (Table 5).

Table 5. The key recommendations for policymakers, lawyers, and e-government stakeholders

Direction	Description
1. Establish Clear Guidelines for AI-Generated Works	
Policy Development	Policymakers should work toward creating clear definitions and guidelines regarding the ownership and protection of AI-generated works. This could involve recognizing AI-generated content as a new category within existing IP frameworks or establishing a distinct legal framework that addresses AI-specific IP rights
Ownership and Authorship	IP laws should be updated to include provisions for AI-generated works that define ownership rights based on factors such as the degree of human input, AI system autonomy, and the entity responsible for deploying the AI. Policymakers may also consider models that allow for joint authorship between human creators and AI systems
Adaptable Frameworks	Flexibility should be built into these guidelines to accommodate rapid advancements in AI technology. This could involve the use of sunset clauses or regular reviews to ensure IP laws remain relevant as AI capabilities evolve
2. Promote International Harmonization of AI-Related IP Laws	
Global Cooperation	Policymakers should engage with international bodies, such as the World Intellectual Property Organization (WIPO) and the Organisation for Economic Co-operation and Development (OECD), to develop harmonized standards for AI-related IP protections. This cooperation is essential for reducing cross-border legal fragmentation and facilitating the exchange of AI-driven e-government solutions
Model Laws and Agreements	The development of model laws or soft law instruments can serve as a foundation for countries to align their IP laws on AI-generated works. Such models would provide flexibility for jurisdictions to adapt based on local contexts while promoting a consistent global approach to AI-related IP challenges
Regional Consistency	Where possible, regional bodies like the European Union can play a leading role in setting standards for AI-driven IP frameworks, which other regions could adopt or use as benchmarks for their own adaptations

Direction	Description
3. Create IP Protections Tailored to E-Government Applications	
Sector-Specific IP Rules	Recognizing that e-government applications may require unique IP considerations, policymakers should consider developing sector-specific IP protections. For example, healthcare, defense, and public data systems might each need customized guidelines based on the type of content generated by AI systems in those areas
Public-Private Partnerships	E-government stakeholders should collaborate with private sector entities to establish IP agreements that address shared ownership and licensing of AI-generated content. Public-private partnerships can foster innovation while ensuring that both parties have clear rights and responsibilities regarding AI-generated IP
Data and Privacy Protections	Since e-government systems often involve sensitive data, it is crucial to integrate data protection and privacy considerations into IP laws for AI. This integration would ensure that AI-generated content adheres to strict data protection standards, especially when involving personally identifiable information
4. Implement New Licensing and Rights Management Models	
Flexible Licensing Options	Lawyers and policymakers should develop adaptable licensing models that reflect the nuances of AI-generated works. Options such as open-source licensing for public-sector AI content, combined with proprietary rights for sensitive applications, can provide a balanced approach to IP protection and public access
Collective Rights Management	Establishing collective rights management systems for AI-generated works can simplify the process of licensing and rights administration. These systems could function similarly to existing copyright collectives, ensuring that stakeholders can manage and protect AI-generated IP effectively, even in complex collaborative environments
AI-Specific Copyright Categories	To better align with AI capabilities, introducing AI-specific copyright categories could help distinguish AI-generated works from human-created ones. This approach would clarify the rights associated with AI-generated content, allowing for tailored protection and licensing options
5. Support Capacity Building and Awareness for Legal Professionals	
Training and Education	Lawyers and legal professionals should receive specialized training on the implications of AI in IP law to enhance their understanding of AI's impact on IP rights. Continuous education initiatives and AI-IP-specific legal programs can ensure that professionals are well-equipped to navigate this evolving field
Interdisciplinary Collaboration	Encouraging collaboration between legal professionals, AI specialists, and technologists will foster a more comprehensive understanding of AI-generated IP. This interdisciplinary approach can lead to more effective IP frameworks that are responsive to the technical realities of AI systems
Legal Research and Development	Investment in legal research focused on AI and IP issues should be prioritized to develop innovative solutions and anticipate future challenges. This research could inform policy decisions, highlight best practices, and identify areas where existing IP laws fall short
6. Facilitate Public Engagement and Transparency	
Stakeholder Consultations	Policymakers should actively seek input from a wide range of stakeholders, including public sector employees, private companies, civil society organizations, and the general public. Inclusive consultations can help ensure that new IP frameworks address the diverse needs and concerns of all stakeholders
Transparency in AI Use	Governments should adopt policies that promote transparency regarding the AI tools and algorithms used within e-government systems. Clear disclosure about the role of AI in content creation can aid in establishing trust and clarifying IP rights for AI-generated works
Public Awareness Campaigns	Raising public awareness about the implications of AI in IP law can empower citizens and businesses to better understand their rights and responsibilities. Public information campaigns and accessible resources can demystify AI's impact on IP protections and foster informed engagement

Source: systematized by the authors

By adopting these recommendations, policymakers, lawyers, and e-government stakeholders can create a more resilient and adaptable IP framework that effectively addresses the unique challenges posed by AI in digital public services. Proactive reform and international collaboration will be essential to ensuring that AI-driven innovation is balanced with strong intellectual property protections, ultimately supporting the development of a fair and equitable digital society.

Discussion. The integration of artificial intelligence (AI) into electronic government (e-government) systems represents a profound transformation in public administration, offering unprecedented opportunities to enhance service delivery, data management, and decision-making. However, as governments increasingly rely on AI to generate data, automate processes, and even create content, new legal challenges emerge, particularly in the domain of intellectual property (IP) rights. This discussion explores the implications of AI-driven e-government for IP protection, analyzing key issues related to authorship, ownership, legal reform, and international harmonization.

1. AI and the Changing Nature of Intellectual Property in E-Government. AI's ability to autonomously generate creative works and data presents a fundamental challenge to traditional notions of authorship and ownership within IP law. Traditionally, IP rights, especially copyrights and patents, are based on human creativity and inventiveness. However, in AI-driven e-government systems, content and innovations are increasingly the product of machine learning algorithms and autonomous systems. For example, AI can generate policy reports, data visualizations, and predictive models with minimal human intervention. This shift raises critical questions: Who owns these AI-generated works? Should the government, the developers of the AI, or the citizens whose data powers these systems hold the rights?

Current legal frameworks are largely ill-equipped to address these questions. Most existing IP laws require a human creator for a work to qualify for copyright protection or a patent, effectively excluding AI-generated works from protection. This creates a legal vacuum where AI-generated content, especially in the public sector, might lack clear ownership, leading to issues around exploitation, distribution, and modification. Moreover, without proper IP protection, the risk of unauthorized use and copying of AI-generated content increases, particularly in cross-border digital environments.

2. Legal Framework Adaptation: Opportunities and Challenges. Adapting legal frameworks to address AI's role in e-government requires careful consideration of several factors. One approach could involve recognizing AI-generated content under a new category of intellectual property, where ownership is assigned based on specific criteria such as the degree of human involvement or the government's role in deploying the AI system. Some jurisdictions, like the European Union, have already begun exploring legislative updates that acknowledge AI's contribution to content creation. However, such adaptations face challenges, particularly in defining clear thresholds for human involvement and determining how to attribute ownership when multiple parties are involved.

Additionally, AI-generated works in the public sector, such as government reports or data-driven policies, often serve a public interest. This raises questions about the balance between protecting IP rights and ensuring public access. Governments must consider how to protect their AI-generated works while maintaining transparency, accountability, and open access to public data. Legal reforms must strike a balance between fostering innovation and protecting intellectual property without restricting access to publicly beneficial content.

3. International Divergence and Harmonization. One of the most significant challenges in addressing AI's impact on IP rights is the lack of international

harmonization. As the benchmarking analysis reveals, different jurisdictions have adopted varying approaches to both AI integration in e-government and IP law adaptation. For instance, the European Union has taken proactive steps toward creating an AI-friendly legal environment, while other jurisdictions, such as the United States and Japan, remain more reliant on traditional IP frameworks that emphasize human authorship.

This divergence presents challenges for international collaboration and cross-border digital public services. AI-generated works produced by e-government systems in one country may face legal uncertainties when used or shared in another jurisdiction with different IP laws. The lack of consistency in how AI-generated content is treated globally could lead to conflicts over ownership and protection, particularly in multinational e-government initiatives.

To address these challenges, international cooperation is critical. Organizations such as the World Intellectual Property Organization (WIPO) and the Organisation for Economic Co-operation and Development (OECD) have recognized the need for international dialogue on AI and IP law. Establishing harmonized global standards or model laws that address AI-generated works could mitigate jurisdictional discrepancies and ensure that AI innovations are protected consistently across borders.

4. Public-Private Partnerships and Sector-Specific Approaches. As e-government increasingly collaborates with private companies to develop AI systems, public-private partnerships play a crucial role in shaping how IP rights are managed. These collaborations often involve shared ownership of AI-generated works or joint development of AI tools, requiring clear agreements on IP rights and licensing. Public-private partnerships present an opportunity to experiment with new IP models that distribute rights based on contributions, investment, and control over the AI system.

Additionally, the analysis highlights the need for sector-specific IP frameworks. AI applications in different sectors of e-government, such as healthcare, defense, or education, may require tailored IP protections. For example, AI-generated innovations in healthcare could involve sensitive personal data and ethical considerations, while AI-driven defense applications may require stricter confidentiality and trade secret protections. Governments and legal professionals should consider developing sector-specific IP policies that account for the unique characteristics and needs of each domain.

5. Future Directions and Legal Reform. The future of intellectual property protection in AI-driven e-government will depend on the ability of legal systems to evolve in response to technological advancements. Policymakers should focus on creating adaptable IP laws that can accommodate future innovations in AI while protecting the interests of governments, citizens, and innovators. This may involve regular reviews and updates to IP laws, incorporating feedback from legal professionals, technologists, and public stakeholders.

In addition to legal reforms, educational initiatives are essential to ensure that lawyers, policymakers, and e-government stakeholders are equipped to navigate the complexities of AI-generated intellectual property. Training and interdisciplinary collaboration between legal experts, AI developers, and public administrators will be

crucial to developing legal frameworks that can effectively address the challenges posed by AI in digital public services.

The rise of AI in e-government presents both opportunities and challenges for intellectual property law. While AI offers the potential to revolutionize public services, it also raises fundamental questions about authorship, ownership, and protection of IP. Current legal frameworks must be adapted to address these issues, with a focus on balancing innovation, public access, and rights protection. International harmonization, public-private partnerships, and sector-specific approaches will be key to creating a robust legal framework that can effectively support AI-driven e-government in the future.

Conclusion. The integration of artificial intelligence (AI) into electronic government (e-government) systems is transforming public administration, offering enhanced efficiency and service delivery. However, this rapid technological advancement also presents significant challenges for intellectual property (IP) law. Traditional IP frameworks, designed with human creativity in mind, are often ill-equipped to address the complexities introduced by AI, particularly when it comes to issues of authorship, ownership, and protection of AI-generated content.

The analysis reveals that while some jurisdictions have begun to explore legal reforms to accommodate AI, the majority of existing IP laws do not adequately address the unique characteristics of AI-driven innovation. Countries are adopting diverse approaches, with varying degrees of progress in integrating AI into e-government systems and updating their IP laws. This lack of harmonization poses challenges for cross-border collaboration and creates legal uncertainties for AI-generated works used or shared internationally.

To effectively protect intellectual property in an AI-driven e-government environment, significant adaptations to legal frameworks are needed. Policymakers must consider developing flexible, AI-specific IP laws that reflect the unique dynamics of machine-generated content. International cooperation will be crucial for establishing consistent standards and enabling the seamless exchange of AI-driven public services across borders. Additionally, sector-specific IP protections and public-private partnerships can play a key role in addressing the specialized needs of different domains within e-government.

As AI continues to evolve, so too must the legal frameworks that support it. A balanced approach, one that promotes innovation while safeguarding intellectual property rights, will be essential for realizing the full potential of AI in e-government. Through proactive legal reform, international collaboration, and ongoing dialogue among policymakers, legal professionals, and stakeholders, a robust IP framework can be established—one that ensures the benefits of AI are realized in a way that is both fair and equitable. This will ultimately contribute to a resilient digital public service ecosystem that can adapt to future technological advancements.

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MAIN DIRECTIONS OF STATE POLICY OF UKRAINE CONCERNING THE SOLUTION OF PROBLEMS IN THE FIELD OF MEDICAL, PHYSICAL AND PSYCHOLOGICAL REHABILITATION OF PARTICIPANTS IN COMBAT ACTIONS

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Abstract. *The article summarizes information on the main directions of the state policy of Ukraine in solving problems in the field of medical, physical and psychological rehabilitation of combatants. The study of the main directions of the state policy of Ukraine in solving problems in the field of medical, physical and psychological rehabilitation of combatants has a systemic nature. Therefore, research methods are also multidisciplinary, because the research concerns administrative law, public administration, and the field of health care. The functional-competence approach was specially applied, according to which the competence of the central bodies of the executive power of Ukraine was analyzed in terms of the development and implementation of state policy. The effectiveness of state policy in the field of state financial guarantees of medical care for the population under the medical guarantee program has been analyzed. Provision of sanatorium-resort treatment and medical benefits are considered. Problems have been identified when the transition of military personnel to civilian life will become a serious challenge for the country. The problem will arise in the context of ensuring a unified approach to the provision of benefits. The issue of rehabilitation financing was considered, in particular, it was noted that all the listed services are provided either exclusively at the expense of local budgets, or under a mixed system, when local authorities receive a partial subvention from the state budget. The problem of transfer of benefits administration functions to local self-government bodies and the introduction of an automated system for servicing the needs of veterans was declared.*

Keywords*: public administration, state policy, rehabilitation, medical rehabilitation, psychological rehabilitation, social protection, medical and social security, combatant.*

JEL Classification: H 11, H 19

Formulas: 0; fig.: 1 table: 1; bibl.: 10

Introduction. Before the start of the full-scale invasion, 500,000 people were registered as participants in the Anti-terrorist operation / Operation of the United Forces (English: ATO/ OUF) since 2014. In connection with the full-scale invasion of Russia, the number of people who were mobilized or joined the volunteer formations, as well as their families and the families of the fallen defenders, may exceed 5 million people.

Medical, physical and psychological rehabilitation of the demobilized members of the ATO/OUF can be done both in regional hospitals and in institutions subordinate to the Ministry of Health of Ukraine. Contracts with the National Health Service of Ukraine (English: NHSU) concluded 25 hospitals for war veterans for a total of UAH 722.7 million.

The first in Ukraine Medical Guarantee Program is based on the principle of universal coverage of medical services. That is, there is a principle according to which all citizens or persons equal to them had equal access to quality medical care. The National Health Service works in the interests of patients. And does not divide them into separate social categories. Every citizen has the right to quality free medical care. The National Health Service of Ukraine provides an opportunity to choose the best hospital, regardless of the patient's status and place of residence, and pays for his treatment to institutions that have a contract with the National Health Service.

Literature review. The article analyzes the joint efforts of the Ministry of Defense, the Ministry of Health, the Ministry of Digital Affairs, the Ministry of Veterans Affairs and experts, in particular, in the area of digitalization of the processes of solving the problems of rehabilitation of combatants and organizational and resource issues. Separately, the procedure for informing the combatants about the algorithm of actions during the rehabilitation process, after it, as well as the rights and guarantees available to them, in accordance with the legislation, is being worked out.

The article summarizes information on the implementation of Contracts with the National Health Service of Ukraine, the Program of Medical Guarantees, and documents of the Ministry of Health. The analysis of information exchanges between the electronic health care system, the "rehabilitation module" and the Unified Information Systems of the social sphere, in particular, the centralized data bank on disability issues, was carried out. This will simplify and speed up the document flow regarding the provision and financing of relevant services. The article analyzes data from the Ministry of Veterans Affairs, the Ministry of Digital Development, Digital Transformation and Digitalization, and the Minister of Internal Affairs.

Aims. The purpose of the article is to study the main directions of the state policy of Ukraine in solving problems in the field of medical, physical and psychological rehabilitation of combatants.

Methodology. The study of the main directions of the state policy of Ukraine in solving problems in the field of medical, physical and psychological rehabilitation of combatants has a systemic nature. Therefore, research methods are also multidisciplinary, because the research concerns administrative law, public administration, and the field of health care. The functional-competence approach was specially applied, according to which the competence of the central bodies of the

executive power of Ukraine was analyzed in terms of the development and implementation of state policy [1-3].

Special attention is paid to special methods that relate directly to the activities of executive authorities. In particular, the Ministry of Health is introducing a multidisciplinary approach to the process of rehabilitation of both civilians and military personnel. Thus, in one of the sub-departmental centers of complex rehabilitation of the Ministry of Social Policy, there are 2 multidisciplinary rehabilitation teams, whose work involves 5 social workers. A full range of inpatient and outpatient rehabilitation services is provided. Currently, the construction of information exchanges between the electronic health care system, the "rehabilitation module" and the Unified information systems of the social sphere, in particular, the centralized data bank on disability issues, is underway. This will simplify and speed up the document flow regarding the provision and financing of relevant services.

Results. Veterans need special attention in the field of medical care. That is why NHSUs work on solving problems and meeting the needs of each patient. Rehabilitation in the acute period of the disease is part of the inpatient treatment service. In addition, veterans will be able to receive medical services provided by mobile multidisciplinary mental health teams.

One of the main requirements for concluding a contract with the National Health Service this year is the creation of barrier-free access to medical facilities for people with disabilities. Hospitals of war veterans should also take care to make medical care even more accessible to each of their patients. Therefore, any health care facility, including a veterans' hospital, that meets the requirements will be able to enter into a contract with the National Health Service for the appropriate package of services and provide medical care to patients.

From April 1, 2020, medical institutions that provide specialized and highly specialized care switched to the new financing system. In particular, those hospitals that met the requirements for contracting with the National Health Service. In order to conclude a contract for each package of medical services, the institution must meet certain requirements. They refer, in particular, to the availability of modern equipment for treatment and diagnostics, qualified medical personnel, etc.

To date, 25 war veterans' hospitals have signed contracts with the NHSU. For a total amount of UAH 722.7 million. As of January 25, within the framework of the Medical Guarantee Program for 2020, the National Health Service paid out more than UAH 602 million to these institutions.

Hospitals mainly provide inpatient care services without surgical interventions (in particular, medical care for patients with COVID-19), outpatient services, rehabilitation of patients with damage to the nervous system or musculoskeletal system, and others under the contract with the NHSU.

Among the priorities of social policy in the field of rehabilitation: change of the system for assessing human functioning and transition of the system to the International Classification of Functioning; the possibility of providing social services in communities at the expense of the State Budget; solving the problem of the poor condition of a number of military hospitals and the need for these institutions to carry

out repair work; the need of district hospitals in "rehabilitation packages" of the National Health Service of Ukraine.

The head of the National Health Service of Ukraine also assured the meeting participants that the funds paid by the National Health Service for medical care in war veterans' hospitals are sufficient to provide free medical services, pay salaries to doctors and medical workers, as well as for the development of relevant institutions. In 2023, tariffs for rehabilitation rose significantly. Currently, for inpatient comprehensive rehabilitation of one person, UAH 33,600 per month must be paid, if, of course, the facility meets certain conditions. This includes the presence of an interdisciplinary team, special equipment, compliance with requirements and standards for human recovery [4].

At the same time, a number of hospitals for war veterans are located in the territories of active hostilities. Therefore, individual services and long-term treatment cannot be provided in such institutions, taking into account the safety conditions [5-6].

Today, it is possible to note the high effectiveness of state policy in the field of state financial guarantees of medical care for the population under the program of medical guarantees implemented by the National Health Service. Thanks to the system of providing "packages of services" payable by the National Health Service, hospitals began to feel normal. They have repairs to the appropriate level of service provision. The Ministry of Health emphasized the expansion of the "Affordable Medicines" program, which enables every Ukrainian, in particular, a war veteran, to receive a number of medicines for free or for a small fee. Currently, the list of the program includes 486 medicinal products. Provision of narcotic analgesics for palliative patients is currently being developed. Narcotic analgesics such as fentanyl patches and strips will be introduced in the second half of this year.

In turn, the Ministry of Veterans' Affairs reported a desire to take responsibility for providing war veterans with psychological help. The Ministry has separate budgetary funding for psychological assistance. It became known that the scope of this Ministry includes 36 institutions that provide a complex of preventive, medical, health and rehabilitation measures both for war veterans and for veterans of the Ministry of Internal Affairs, participants in hostilities, military personnel and certain privileged categories and members of their families. In addition, 8 medical rehabilitation centers operate in the system of the Ministry. Unfortunately, a number of institutions are not functioning due to temporary occupation, damage or mining. Since February 24, 2022, more than 6,000 wounded have already received inpatient treatment in health care facilities of the Ministry of Internal Affairs, and more than 2,000 wounded have received outpatient treatment. Also, in these institutions there is a VLK, medical and psychological rehabilitation is provided. Separate protocols have been developed for working with certain categories of our employees, in particular, those who have been released from captivity. The Ministry of Internal Affairs, together with the Ministry of Health, systematically implement measures to send the wounded abroad for treatment and prosthetics.

Joint efforts of the Ministry of Defense, the Ministry of Health, the Ministry of Digital, the Ministry of Veterans and experts regarding the change in the process of

passing the military medical commission (MMC), in particular, in terms of digitalization of processes and organizational and resource issues. Taking into account the growing load on MMCs, the network of commissions is expanding, including through the creation of additional garrison MMCs and the involvement of civilian health care institutions. The government officials plan to introduce electronic document flow between military units and military hospitals, as well as an electronic queue at the MMC. Separately, the procedure for informing military personnel about the algorithm of actions during the process of passing the military training, as well as the rights and guarantees available to them, in accordance with the legislation, is being worked out.

The Verkhovna Rada of Ukraine adopted as a basis two draft laws related to the work of the MMC, namely:

the draft Law of Ukraine on Amendments to Article 70 of the Fundamentals of the Legislation of Ukraine on Health Protection (regarding the work of military medical commissions);

the draft Law of Ukraine on Amendments to the Statute of the Internal Service of the Armed Forces of Ukraine regarding the improvement of documents processing and treatment of servicemen during martial law.

In accordance with the Law of Ukraine "On the status of war veterans, guarantees of their social protection", injured participants of the Revolution of Dignity, war veterans, as well as family members of the dead (deceased) of such persons have the right to sanatorium-resort treatment. Provision of sanatorium-resort treatment for war veterans from among the participants of the ATO/OUF, injured participants of the Revolution of Dignity, as well as family members of the dead (deceased) of such persons is carried out with budget funds in accordance with the procedure approved by the Resolution of the Cabinet of Ministers of Ukraine dated 31.03.2015 No. 200 [7] .

Sanatorium-resort treatment can be obtained in sanatoriums of Ukraine of one's own choice, in accordance with contracts concluded by structural subdivisions on issues of social protection of the population or bodies of social protection of the population with individuals and sanatorium-resort institutions.

Free sanatorium-resort treatment is provided by:

1) participants in hostilities, injured participants in the Revolution of Dignity - no more than once a year for a period of 21 days;

2) persons with disabilities as a result of the war - annually and every other year for a period of 21 days;

3) persons with disabilities as a result of the war with diseases of the nervous system (with the consequences of injuries and diseases of the spine and spinal cord) - in accordance with medical recommendations, of which:

I and II groups - to sanatoriums (departments) of the spinal profile with treatment for a period of 35 days;

Group III - to sanatoriums of a neurological profile with treatment for 21 days;

4) war participants - no more than once every two years for a period of 21 days;

5) persons whose status is established in accordance with the fourth, eighth and fourteenth paragraphs of Clause 1 of Article 10 of the Law (further - family members

of dead (deceased) war veterans) - no more than once every two years for a period of 21 days.

In accordance with paragraph 20, item 3 of the Final Provisions of the Law of Ukraine "On the State Budget of Ukraine for 2023" [8], the effect of item 3 of the first part of Article 12, item 3 of the first part of Article 13, item 3 of the first part of Article 14, item 3 is suspended for 2023 of the first part of article 15, paragraph 6 of the first part of article 16 of the Law of Ukraine "On the status of war veterans, guarantees of their social protection" [9] in terms of free provision of sanatorium-resort treatment or receiving compensation for the cost of independent sanatorium-resort treatment.

Currently, there are the following medical benefits:

- free receipt of medicines, medicinal products, immunobiological preparations and medical products according to doctors' prescriptions;
- priority free dental prosthetics (with the exception of prosthetics made of precious metals);
- free provision of sanatorium-resort treatment or receiving compensation for the cost of independent sanatorium-resort treatment. The procedure for issuing vouchers, the amount and procedure for paying compensation for the cost of independent sanatorium-resort treatment are determined by the Cabinet of Ministers of Ukraine;
- use upon retirement (regardless of the time of retirement) or change of place of work by polyclinics and hospitals to which they were attached at the previous place of work;
- annual medical examination and dispensary with the involvement of the necessary specialists;
- priority service in medical and preventive facilities, pharmacies and priority hospitalization;

Analysts are inclined to think that a preferential approach has strengthened in Ukraine, which is false by definition. Instead of providing the support necessary for an ex-combatant to become a successful independent citizen, the state encourages social parasitism.

Benefits, mostly of an economic nature (payments until May 5, discounts on utility bills, land plots that can be sold), are not supported by educational and educational measures (opportunities for training, professional development, trainings, consultations). As a result, small handouts from the state are quickly consumed, and the socio-economic situation and, accordingly, the psychological state of the veteran remain unchanged. Problems remain, and a person who has not independently adapted to a peaceful life, again goes for another dose of benefits, which in principle do not change anything. The most unfortunate thing is that the impact of the money spent is minimal, and, accordingly, the dissatisfaction of veterans is constantly growing. Since the number of veterans in Ukraine is increasing, public dissatisfaction can reach a critical level quite quickly.

It should be taken into account that the new generation of veterans are relatively young people, aged on average from 25 to 45 years old, the vast majority of whom are patriotic and quite socially active. The Internet and new technologies have simplified

access to information, but access to decision-making processes - both at the state and local levels - remains quite limited.

Preliminary calculations require full openness and cooperation from the Ministry of Finance and all central executive authorities that provide services to veterans. It is possible that it will be advisable to involve international auditors in this process.

The Ministry of Veterans Affairs created the Unified State Register of War Veterans with information on:

war veterans (combatants, persons with disabilities as a result of war and war participants);

persons who have special merits for the Motherland;

injured participants of the Revolution of Dignity;

family members of persons specified in paragraphs two to four of this clause, and family members of fallen (deceased) war veterans, family members of fallen (deceased) Defenders of Ukraine.

A Database (https://eveteran.gov.ua/) has also been created for veterans, where information is collected in an accessible and simple form about the benefits and statuses provided by legislation for persons of the categories in accordance with the Law "On the Status of War Veterans". E-Veteran is a system based on the Unified State Register of War Veterans [10].

Discussion. Today, the transfer of benefits administration functions to local self-government bodies and the introduction of an automated system for servicing the needs of veterans is an acute problem. In fact, the small number of state guarantees that veterans actually use are already in the sphere of competence of local authorities. It is local budgets that finance discounts on rent and utility bills, medical care (annual examinations, dispensation, medicines and medicinal products, etc.), free travel. Funds for the purchase of housing are received by the relevant categories of citizens after the local social security authorities submit an application for the allocation of subventions from the relevant programs for the purchase of apartments. The right to receive land plots is exercised almost exclusively locally and at the expense of local resources.

That is, from a legislative point of view, the process is quite regulated and will not require significant changes. The problem will arise in the context of ensuring a unified approach to the provision of benefits.

Currently, all the listed services are provided either exclusively at the expense of local budgets, or under a mixed system, when local authorities receive a partial subvention from the state budget. As a result, the level of support that a veteran receives directly depends on the size of the local budget. An automated system for serving the needs of veterans is another way to solve the issue of service availability and the quality of their provision. Meanwhile, the electronic administration of benefits and social guarantees is a slightly more complicated story.

The transition of military personnel to civilian life will be a serious challenge for the country. For example, disappointing US statistics show that suicides among veterans have long remained at an average of 22 cases per day. In Ukraine, such figures as of 2023, given the circumstances of a full-scale war, have not yet been made public.

Among the main problems that currently exist in Ukraine:

- not determining the real needs of veterans and their family members, as well as their radical change since the moment of the full-scale invasion;

- ignorance of veterans and their family members about opportunities from the state, budgetary institutions, international organizations;

- support for veterans is organized as a system of payments and benefits, for which veterans must apply separately.

The given statistics and characteristics show that the issues of veterans will remain relevant for Ukraine for at least the next 50 years. Challenges in the field of security and defense need to accelerate the process of finding solutions.

Today, the Unified State Automated Register of Persons Entitled to Benefits is operating in Ukraine - an automated data bank created to ensure registration of persons entitled to benefits on social grounds. Inclusion in the Unified state automated register of persons entitled to benefits is carried out by the social protection authorities after reviewing the submitted package of documents. This is a database containing information on all categories of persons entitled to benefits. The problem with this register is that it does not distinguish categories and does not provide for the possibility of collecting extended information about a person and updating it regularly.

In order to ensure the automated management of benefits, it is necessary to create a completely new electronic system, which would consist of a unified register and a veteran's personal electronic cabinet. Such a system would immediately solve a whole series of issues: from the need to constantly update information (a person can do this independently through a personal online account) to the formation of budget requests based on real numbers and real needs. In addition, it has long been known that minimizing direct personal contacts with officials has a positive effect on the reduction of corruption, shortens the waiting time for services and increases the level of satisfaction of the individual.

Conclusion. In conclusion, Ukraine's state policy concerning the medical, physical, and psychological rehabilitation of combat participants reflects a comprehensive and multidisciplinary approach, highlighting significant strides in addressing the needs of veterans. The National Health Service of Ukraine (NHSU), in partnership with various ministries, has introduced the Medical Guarantee Program and developed robust contracts with specialized hospitals to ensure accessible, quality healthcare services for veterans. The focus on digitalization, through initiatives like the "rehabilitation module" and the Unified Information Systems, promises to simplify and expedite service provision, contributing to more efficient and transparent processes.

However, despite notable progress, challenges remain. These include ensuring adequate funding and infrastructure, particularly in regions affected by ongoing hostilities, as well as addressing the long-term psychological and social reintegration of veterans into civilian life. Furthermore, the current system, while providing important benefits, still fosters a dependency that may inhibit veterans' successful reintegration. Addressing these issues, including developing educational and employment opportunities alongside financial support, is crucial for fostering independence and improving the overall well-being of combat veterans.

Looking forward, a unified and automated system for managing veterans' needs, combined with local and national level cooperation, can enhance the effectiveness of state policies. Continued efforts are required to ensure that veterans are provided not only with immediate support but also with opportunities for long-term personal and professional development, helping them transition into active members of society. This holistic approach is essential as Ukraine moves towards meeting the evolving needs of its growing veteran population in the aftermath of prolonged conflict.

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CHAPTER 2
LEGAL RELATIONS: FROM THEORY TO PRACTICE

COMPARATIVE ANALYSIS OF REGULATORY ACTS OF THE EU COUNTRIES ON THE PROTECTION OF INTELLECTUAL PROPERTY IN THE CONDITIONS OF THE USE OF ARTIFICIAL INTELLIGENCE

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Abstract. *The rise of artificial intelligence (AI) has fundamentally challenged traditional intellectual property (IP) frameworks, particularly in the European Union (EU), where regulatory efforts are aimed at balancing innovation with legal protections. AI's ability to autonomously create, modify, and use IP raises complex questions about authorship, inventorship, ownership, and enforcement, which existing laws were not designed to handle. As EU countries attempt to adapt their legal systems to address these challenges, a comparative analysis of their regulatory acts is essential to understand how different member states are responding to the intersection of AI and IP protection. The aim of this article is to provide a comparative analysis of the regulatory frameworks governing IP protection in the context of AI across selected EU countries. By examining national legislation and harmonization efforts, the study seeks to identify common challenges, highlight divergent approaches, and offer insights into the evolving legal landscape of IP protection in the age of AI. The article employs a qualitative, comparative research methodology. It focuses on six EU countries—Germany, France, the Netherlands, Poland, Greece, and Romania—analyzing their IP laws concerning AI-related issues. The study reviews national regulations, EU directives, and case law to evaluate how each country addresses AI-generated IP in terms of ownership, authorship, patentability, trademark issues, and enforcement mechanisms. A thematic coding approach is used to identify key trends and divergences between member states. The analysis reveals that all EU countries maintain the requirement for human authorship and inventorship, which limits the legal recognition of fully autonomous AI-generated content. While countries like Germany, France, and the Netherlands have initiated discussions on potential legal reforms, others, such as Poland, Greece, and Romania, rely more heavily on existing frameworks and await further EU guidance. Additionally, enforcement mechanisms vary significantly, with more technologically advanced countries adopting AI-driven tools to monitor and enforce IP rights. As AI continues to evolve and play a larger role in creative and technical industries, the legal frameworks governing IP in the EU must adapt accordingly. Future regulatory efforts should focus on creating new categories for AI-generated works, investing in AI-powered enforcement tools, and ensuring greater harmonization across member states. By addressing these challenges proactively, the EU can strike a balance between fostering AI innovation and maintaining robust IP protections, positioning itself as a global leader in both technology and intellectual property rights.*

Keywords: *artificial intelligence; intellectual property; harmonization; law; intellectual property protection; European Union; legal landscape.*

JEL Classification: H 11, K11, K24

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Introduction. The rapid development and integration of artificial intelligence (AI) technologies across various industries have posed significant challenges to traditional intellectual property (IP) frameworks. In response, European Union (EU) member states have been compelled to adapt their regulatory systems to address the unique issues arising from AI's ability to create, modify, and utilize intellectual property. This article presents a comparative analysis of the regulatory acts in EU countries concerning the protection of intellectual property in the context of AI. By examining the similarities, differences, and key trends in national legislation, the article aims to provide insights into how member states are navigating the intersection of AI innovation and IP protection. The study highlights both the harmonization efforts within the EU and the divergent approaches taken by individual countries, offering a comprehensive overview of the evolving legal landscape in this critical area.

Literature review. The rapid advancement of artificial intelligence (AI) technologies has significantly impacted the traditional frameworks for intellectual property (IP) protection. AI's ability to generate content autonomously, from artistic works to technical inventions, poses fundamental challenges to existing IP laws, particularly in the European Union (EU), where member states must balance harmonization with national legislative autonomy. This literature review explores the key scholarly contributions and legal analyses on the protection of IP in the context of AI, focusing on the comparative regulatory approaches of EU countries.

AI and Intellectual Property Law. The intersection of AI and IP law has been widely discussed in recent legal scholarship, with a particular focus on how traditional IP laws apply to AI-generated works and inventions. Many authors argue that the current IP frameworks, which are rooted in human authorship and inventorship, struggle to accommodate the autonomous capabilities of AI.

Tegmark (2019) examines the growing role of AI in creative industries and the limitations of copyright law in protecting AI-generated content. Tegmark highlights the need for reform, as current laws do not recognize non-human entities as authors, which creates a gap in protection for works generated without significant human input.

Guadamuz (2020) explores the challenges AI presents to the fundamental concepts of ownership and authorship in IP law, arguing that new categories of IP rights may need to be introduced to cover AI-generated content, particularly in the areas of copyright and patent law.

Samson & Durovic (2021) focus on AI's role in the inventive process and patent law, suggesting that while AI can assist in innovation, the requirement for human inventorship in patent law remains a significant obstacle. They advocate for new legal definitions to address the blurred lines between human and AI contributions to inventions.

Comparative Approaches to IP Regulation in the EU. A considerable body of research has examined the different approaches taken by EU member states in adapting their IP laws to new technological challenges, including AI. While the EU has made efforts to harmonize IP law across the union, significant differences remain in how national laws interpret key concepts such as authorship, inventorship, and ownership.

Strowel (2018) provides a comparative analysis of copyright laws across major EU member states, examining how these laws are applied to AI-generated works. Strowel notes significant divergence between countries like France and Germany, where originality and human input are more strictly defined, and more flexible interpretations in the Netherlands and Poland.

Custers et al. (2019) review patent law developments in key EU countries, focusing on AI-assisted inventions. They highlight Germany's leadership in patent filings for AI innovations but point out that all member states require human involvement in the inventive process, which complicates patent applications involving AI.

Gervais (2021) explores the EU's regulatory harmonization efforts through directives such as the Copyright Directive and Digital Single Market Strategy, noting that while these frameworks provide a foundation for IP protection, they do not yet adequately address the complexities introduced by AI.

Legal Reforms and Proposals for AI and IP. Several authors focus on the legal reforms and proposals necessary to adapt IP law to the age of AI. Scholars generally agree that new approaches are needed, though opinions differ on the best strategies for reform.

Bently & Sherman (2020) argue for a more nuanced approach to copyright law that would accommodate both human and AI-generated content by introducing a new category of "machine authorship." They also suggest creating licensing schemes to allow for the use of AI-generated works in a legal and controlled manner.

Lemley & Casey (2021) advocate for a reevaluation of patent law, proposing the concept of "AI-assisted invention" as a new category in IP law that allows for joint human and AI inventorship. They suggest that such changes would better reflect the reality of modern innovation processes, where AI plays an increasingly central role.

Peukert (2022) offers a more critical view, arguing that extending IP protections to AI-generated content may stifle innovation. Peukert suggests that rather than expanding IP rights, legislators should consider alternative models, such as open-access regimes, to encourage the free flow of AI-generated works.

Policy and Legislative Developments at the EU Level. Policy analysis plays a key role in understanding the regulatory landscape for AI and IP in the EU. Recent policy documents and reports from EU institutions provide valuable insight into the direction of future reforms.

European Commission (2020) released its White Paper on AI, which addresses the potential legal gaps in IP protection related to AI. The report highlights the need for further exploration of AI-related IP issues and calls for a balanced approach to reform that protects IP while fostering innovation.

EUIPO (2021) published a detailed report on AI and intellectual property, analyzing current laws and identifying areas where reform may be necessary. The report recommends strengthening enforcement mechanisms, clarifying authorship and ownership rights for AI-generated works, and fostering greater harmonization across member states.

The literature consistently highlights the challenges that AI poses to existing IP frameworks in the EU, particularly regarding authorship, ownership, and inventorship. While scholars and policymakers agree on the need for reform, the exact path forward remains a topic of debate. Some advocate for expanding IP protections to cover AI-generated content, while others suggest more flexible models that prioritize innovation and collaboration. The differences in national approaches across the EU complicate harmonization efforts, making comparative analysis crucial for understanding the current and future state of AI-related IP law.

Aim. The aim of this article is to conduct a comprehensive comparative analysis of the regulatory acts in EU countries that govern the protection of intellectual property (IP) in the context of artificial intelligence (AI). The article seeks to identify key similarities, differences, and emerging trends in national legislation, providing insights into how EU member states are adapting their legal frameworks to address the challenges posed by AI in the field of IP protection.

Methodology. The methodology for this article, "Comparative Analysis of Regulatory Acts of the EU Countries on the Protection of Intellectual Property in the Conditions of the Use of Artificial Intelligence," involves a structured approach to examine and compare the legal frameworks adopted by different European Union (EU) member states. The study employs a comparative legal research design, using both qualitative and quantitative methods to systematically analyze regulatory acts, legislative documents, and relevant case law from selected EU countries. The research is conducted in two main phases: data collection and data analysis.

Six EU member states were chosen for this comparative study, representing a diverse cross-section of the EU in terms of technological advancement and legal traditions. These countries include Germany, France, the Netherlands, Poland, Greece, and Romania. They were selected based on their varying levels of AI adoption and IP protection mechanisms, allowing for a comprehensive analysis of different regulatory approaches within the EU. Regulatory acts and official policy documents related to IP protection and AI were gathered from national databases, government publications, and legal repositories. This includes copyright laws, patent laws, trademark regulations, and enforcement mechanisms relevant to AI. EU-level directives, such as the Copyright Directive and the European Patent Convention, were also reviewed to assess the degree of harmonization across member states. Legal commentaries, scholarly articles, and reports from institutions such as the European Union Intellectual Property Office (EUIPO) and the European Commission were utilized to gain insights into recent developments and scholarly debates. These sources provided context and helped identify key issues and trends related to AI and IP protection.

The methodology used in this study provides a comprehensive approach to understanding how EU countries are adapting their IP frameworks in response to the growing influence of AI. By systematically comparing regulatory acts and enforcement practices, the study aims to contribute to the ongoing discussions on harmonizing IP laws across the EU in the age of AI.

Results. The comparative analysis of regulatory acts across EU countries on the protection of intellectual property (IP) in the context of artificial intelligence (AI)

highlights key trends, commonalities, and divergences in national legal frameworks. The results indicate that while there is significant alignment at the EU level due to directives such as the Copyright Directive and the European Patent Convention, member states differ in how they interpret and implement these regulations in the context of AI-generated content and inventions.

Comparative Analysis of Regulatory Acts on AI-Generated IP Ownership and Authorship in Selected EU Countries. As artificial intelligence (AI) plays an increasingly significant role in the creation of intellectual property (IP), EU member states have had to reconsider their traditional legal frameworks concerning IP ownership and authorship. The legal recognition of AI-generated works varies across EU countries, with some introducing specific legislative measures and others still relying on existing frameworks that are often ill-suited to the complexities posed by AI. This comparative analysis examines the approaches of selected EU countries regarding AI-generated IP ownership and authorship.

Germany. Germany, known for its strong intellectual property protection regime, applies a traditional interpretation of IP law when it comes to AI-generated works. Under German copyright law, authorship is granted only to natural persons, meaning that AI cannot be recognized as an author. If AI is used as a tool to generate content, the individual who programmed or used the AI would typically hold the authorship and ownership rights. AI-generated content that lacks a direct human creator cannot claim copyright protection, leaving a potential gap in the protection of fully autonomous AI creations. In the case of patents, German law requires a human inventor, although AI-assisted inventions are recognized if a human directs the inventive process.

France. France has a similar approach to Germany in terms of recognizing natural persons as the only legal authors of IP. French copyright law emphasizes the need for a human creator in order to assign authorship rights, which excludes AI-generated works from automatic protection. Like Germany, France does not recognize AI as an independent legal entity that could own intellectual property. Instead, the individual or entity that controls the AI system (such as a programmer or a business) would typically be considered the owner of the output. For AI-assisted inventions, French patent law follows the European Patent Office's (EPO) guidelines, which stipulate that the inventor must be a human being.

Netherlands. The Netherlands follows a similar legal tradition as Germany and France in that only natural persons can be designated as authors under copyright law. Dutch law does not recognize AI as an author or owner of intellectual property. AI-generated works may fall outside of copyright protection unless human intervention is significant enough to justify authorship. However, the Netherlands has taken steps toward discussing and updating its IP laws to consider the rise of AI-generated works, although no concrete legislative changes have been made to date. Dutch patent law also requires human involvement in the inventive process, leaving AI as a tool rather than a legal inventor.

Poland. Poland’s intellectual property laws also align with the traditional European stance that authorship and ownership of IP require human involvement. AI-generated works are not explicitly addressed in Polish law, but current interpretations

would likely exclude autonomous AI creations from copyright protection. In cases where AI assists in the creation of a work, the person controlling the AI would typically hold the rights. Poland has yet to introduce specific legislative provisions that address the ownership and authorship of AI-generated content, but discussions are emerging within the legal community regarding potential reforms.

Greece. Greece's legal framework for intellectual property follows similar principles to other EU countries, where only natural persons can be recognized as authors of creative works. AI-generated content without significant human contribution is not eligible for copyright protection under Greek law. However, AI-assisted works may be protected if a human has played a meaningful role in directing the creative process. The country has not yet introduced specific regulations addressing AI-generated IP ownership but remains aligned with the broader European perspective on the necessity of human authorship in IP law.

Romania. Romania, like other EU member states, does not recognize AI as an independent author or owner of intellectual property. Romanian law requires that authorship be attributed to a natural person, which excludes fully autonomous AI-generated works from copyright protection. In cases where AI is used as a tool to assist in the creative process, the human operator would typically be considered the author. Romanian patent law similarly requires a human inventor, leaving AI-generated inventions in a legal gray area.

At the EU level, intellectual property law remains largely based on directives and regulations that predate the rise of AI technologies. EU copyright law, as articulated in the Copyright Directive, does not explicitly address AI-generated works, but like individual member states, it presupposes human authorship. In 2020, the European Commission launched a public consultation on AI and intellectual property rights to gather input on potential legislative changes. The EU Intellectual Property Office (EUIPO) has acknowledged the challenges posed by AI and is actively exploring the need for harmonized approaches to AI-generated works, though concrete regulations have yet to be established.

The regulatory landscape for AI-generated IP ownership and authorship across EU countries remains largely rooted in traditional human-centric frameworks, which exclude AI as an independent creator or owner of intellectual property. While there are no significant divergences among EU member states in this regard, the absence of legal recognition for autonomous AI creations presents a challenge as AI technologies advance. As the European Union continues to explore the need for legal reforms, future legislative initiatives may focus on addressing the gaps left by current frameworks to better protect and manage AI-generated intellectual property across the region.

Common and Distinctive Features in the Regulatory Acts of EU Countries on "AI-generated IP Ownership and Authorship". The treatment of AI-generated intellectual property (IP) ownership and authorship across the EU countries shows several commonalities and distinctions in regulatory approaches. While most EU member states share a traditional legal framework that requires human involvement in IP creation, the rise of artificial intelligence is prompting discussions and, in some cases,

reforms. Below is a detailed analysis of the common and distinctive features in the regulatory acts on AI-generated IP ownership and authorship among EU countries.

Table 1. The common and distinctive features in the regulatory acts on AI-generated IP ownership and authorship among EU countries

Common Features		Distinctive Features	
Human Authorship Requirement	Across all EU countries analyzed, the foundational requirement for IP ownership and authorship is human involvement. This means that under current copyright and patent laws, only natural persons can be recognized as authors or inventors.	**Varying Degrees of Policy Discussions**	Some countries, like the Netherlands and Poland, are more proactive in holding public discussions and debates on the future of IP protection in the age of AI. These countries have initiated conversations on whether reforms to their legal frameworks are necessary to address AI-related issues, though no specific laws have been enacted
	AI, regardless of its level of autonomy, cannot be considered the creator or owner of intellectual property in any EU country. This principle applies uniformly to copyright laws, which protect creative works, and patent laws, which protect inventions.		In contrast, other countries, such as Greece and Romania, have not yet initiated extensive discussions or policy debates on AI-generated IP ownership and authorship, and continue to apply their traditional IP laws without modification
AI as a Tool for Human Creation	In all EU countries, when AI is used as a tool to assist a human in generating content, the human operator retains ownership and authorship of the work. The legal frameworks in these countries attribute the IP rights to the person or entity that controls and directs the AI	**Patent Law Interpretations and AI Involvement**	While patent laws across the EU generally require human inventors, the interpretation of what constitutes "human involvement" in AI-assisted inventions varies slightly from country to country. For example, Germany and France follow a stricter interpretation, where the inventor must play a direct and central role in the inventive process. In other countries, such as Poland, there is more flexibility in recognizing AI-assisted inventions as long as there is a clear human agent directing the process.
	This approach sees AI-generated works as being produced through the human's creative input, even if the AI plays a significant role in the output. The ownership rights lie with the human or the organization responsible for programming or operating the AI		This distinction can influence how patents for AI-assisted inventions are treated in different countries, though no country currently allows AI to be named as an inventor
Lack of Legal Recognition for Autonomous AI Creations	There is a consistent gap in the legal frameworks across the EU when it comes to addressing works created by AI with little to no human intervention. AI-generated content that is produced autonomously without human direction generally lacks copyright protection in all countries	**Level of Engagement with EU-Level Initiatives**	Certain countries, such as Germany and France, are more actively engaged in EU-level discussions on the harmonization of IP laws in the context of AI. These countries participate in shaping EU policies and are often seen as leaders in proposing legislative solutions to AI-related challenges
	The absence of clear legal recognition for such works leaves a potential legal vacuum in the protection of fully autonomous AI-generated content		Smaller countries or those with less developed AI ecosystems, such as Greece or Romania, tend to adopt a more passive role, waiting for guidance from the EU before considering any national reforms. This creates a distinction in how quickly countries are likely to adapt to potential future EU-wide regulations on AI and IP
Reliance on Existing IP Frameworks	All EU countries currently rely on their pre-existing intellectual property laws, which were created with human creators in mind. None of the countries has yet implemented specific legislative acts or reforms explicitly addressing the unique challenges posed by AI in the context of IP ownership and authorship	**National IP Office Guidance**	Some countries, such as the United Kingdom (before Brexit) and the Netherlands, have issued guidance or policy briefs through their national intellectual property offices addressing the use of AI in IP creation. While these are not legislative changes, they represent a more advanced level of engagement with the topic compared to countries that have not yet issued any formal guidance
	Discussions are ongoing at both the national and EU levels about whether new laws or amendments are necessary to adapt to the evolving role of AI in IP creation		In countries without such guidance, there is a heavier reliance on courts and legal scholars to interpret how existing laws apply to AI-generated content
Alignment with EU Directives	The majority of EU countries are aligned with EU-wide directives, such as the Copyright Directive and the European Patent Convention, which also require human authorship for intellectual property. These EU-level frameworks similarly do not recognize AI as an independent creator of IP	**Future Legal Reforms**	Although no country has yet introduced comprehensive reforms specifically addressing AI-generated IP, there is a divergence in how countries view the need for legal changes. For instance, countries with more advanced AI ecosystems, like Germany and the Netherlands, are more likely to push for specific reforms in the near future, recognizing the gaps in current IP laws. Meanwhile, other countries, such as Romania or Greece, may adopt a wait-and-see approach, relying on broader EU directives or guidelines before taking any national action

Source: systematized by the authors

In summary, the regulatory acts on AI-generated IP ownership and authorship in EU countries share many common features, including a reliance on human authorship, the treatment of AI as a tool, and the exclusion of autonomous AI creations from legal recognition. However, distinctive features emerge in how different countries are addressing these challenges, particularly in their level of engagement with policy discussions, patent law interpretations, and readiness for future reforms. As AI continues to evolve, these common and distinctive features will likely shape the trajectory of national and EU-wide legislative developments in the field of intellectual property.

Comparative Analysis of Regulatory Acts of EU Countries on the Patentability of AI-related Inventions. The increasing role of artificial intelligence (AI) in the field of innovation has prompted a reassessment of traditional patent laws across the European Union (EU). While AI-generated inventions present new opportunities, they also challenge existing legal frameworks that are primarily designed for human inventors. This comparative analysis explores how selected EU countries are addressing the patentability of AI-related inventions, with a focus on the role of AI in the inventive process, the requirement of human inventorship, and the interpretation of novelty, inventive step, and patent eligibility in the context of AI innovations.

Germany. Germany is a leader in the European intellectual property (IP) landscape and applies a relatively strict interpretation of patent law concerning AI-related inventions. Under German law, patents can only be granted to natural persons, which means that AI itself cannot be listed as an inventor. However, AI-assisted inventions are patentable if they meet the standard criteria of novelty, inventive step, and industrial applicability. German law recognizes inventions where AI plays a role in the innovation process, but the human inventor must have made a meaningful contribution. AI is viewed as a tool that assists in the development of the invention rather than being the source of the invention itself. In Germany, the human inventor who directed the use of AI in the inventive process is considered the legal inventor. The European Patent Office (EPO) guidelines, which Germany adheres to, also require that an inventor must be a natural person.

France. In France, the patentability of AI-related inventions follows a similar trajectory to Germany, where the law requires a human inventor. French patent law mandates that an invention must be the result of human ingenuity, meaning AI cannot be recognized as the inventor. However, like other EU countries, France allows for the patenting of AI-assisted inventions, provided they meet the requirements of patentability.

France allows for the patenting of inventions that utilize AI in their development, but the invention must be the result of a human-directed process. The inventive step must involve human creativity, with AI seen as a tool or support in achieving the final invention. In French patent law, an AI-related invention is assessed on the same grounds as any other invention - whether it involves an inventive step and whether it is novel. The use of AI in generating a solution is not in itself sufficient for patentability; the human inventor must contribute to the inventive process.

Netherlands. The Netherlands follows the general EU guidelines on patent law, emphasizing human involvement in the inventive process. As in Germany and France, AI cannot be an inventor, but AI-assisted inventions are patentable under Dutch law if they meet the standard requirements of novelty, inventive step, and industrial applicability.

Dutch law explicitly requires that a human inventor be named in a patent application, even if AI was instrumental in the inventive process. AI tools are regarded as aids in invention, and the final inventive contribution must come from the human inventor. In the Netherlands, inventions involving AI technologies (such as AI algorithms or machine learning models) are patentable as long as they demonstrate a technical effect beyond the mere implementation of an algorithm. The inventive step must involve human creativity, where AI acts as an enabler rather than the inventor itself.

Poland. Poland's patent law also requires human inventorship, aligning with the broader European patent framework. AI-related inventions are patentable in Poland as long as they meet the traditional criteria of novelty, inventive step, and industrial applicability. However, as in other EU countries, AI cannot be recognized as the inventor.

Polish patent law acknowledges the use of AI as part of the inventive process but insists on human oversight and control. The person who directs the AI in achieving a new solution is recognized as the inventor, and AI is treated as a tool for assisting human innovation. While Poland has not yet introduced specific legislative reforms addressing AI and patentability, discussions are ongoing in the legal community about how the law might evolve to address AI-generated inventions more explicitly.

Greece. Greece follows the European Patent Office (EPO) guidelines, which stipulate that an inventor must be a natural person. AI-related inventions are patentable in Greece if they are novel, involve an inventive step, and are industrially applicable. AI itself cannot be named as an inventor, but inventions involving AI as part of the inventive process can be patented.

Like other EU countries, Greece emphasizes the need for human involvement in the inventive process. The human inventor is recognized as the party who controls or directs the AI in generating the innovation. In Greece, inventions involving AI are patentable if they provide a technical solution to a problem. This technical solution must be more than just an abstract idea or algorithm; it must have industrial applicability.

Romania. Romania's patent law follows the European norm of requiring human inventorship. AI-related inventions are patentable under Romanian law, provided they meet the standard criteria for patentability. However, like other EU member states, Romania does not recognize AI as an independent inventor. Inventions that use AI as part of the development process are patentable in Romania if the human inventor contributes to the inventive step. Romanian law, like other EU countries, views AI as a tool rather than a creator of inventions. While no specific legislative initiatives have been introduced in Romania to address AI-related patents, there are discussions within the legal community about how to handle the rise of AI in innovation. These

discussions focus on whether current laws are sufficient to protect AI-related inventions.

At the EU level, the European Patent Office (EPO) plays a central role in determining patentability for member states, including the countries analyzed. The EPO has made clear that under the European Patent Convention (EPC), an inventor must be a natural person. AI-related inventions are patentable, but AI cannot be named as an inventor.

The EPO provides guidance on the patentability of AI-related inventions, emphasizing that such inventions must provide a technical solution to a technical problem. Merely implementing an AI algorithm is not sufficient for patentability; there must be a tangible technical effect. Inventions that make use of AI are eligible for patent protection across the EU if they fulfill the standard patent requirements—novelty, inventive step, and industrial applicability. However, the human inventor is recognized as the source of innovation, even if AI played a key role in the inventive process.

Common and Distinctive Features in the Regulatory Acts of EU Countries on Patentability of AI-Related Inventions. The patentability of AI-related inventions across EU countries is governed by a combination of national laws and EU-wide frameworks, particularly those established by the European Patent Office (EPO). While there is significant alignment in terms of fundamental principles, some distinctive approaches are emerging in how different countries interpret and handle the specifics of AI-driven innovations. Below is an analysis of the common and distinctive features in the regulatory acts across the EU concerning the patentability of AI-related inventions.

Table 2. The common and distinctive features in the regulatory acts across the EU concerning the patentability of AI-related inventions

Common Features		Distinctive Features	
Human Inventorship Requirement	Across all EU countries, patent law mandates that the inventor must be a natural person. This principle is rooted in the European Patent Convention (EPC) and is uniformly upheld by the EPO. AI systems, no matter how autonomous, cannot be listed as inventors	**Interpretation of Inventive Step**	While all EU countries follow the same basic requirement for inventive step, the level of human involvement required can vary slightly. Germany and France adopt a stricter interpretation, requiring significant human contribution in the inventive process. AI is seen strictly as a tool, and the human inventor's involvement must be clear and central to the invention. In Poland and the Netherlands, there is slightly more flexibility in the interpretation, allowing for broader human oversight over the AI-generated output, as long as the human is directing the process
	In every EU country, the individual or entity responsible for creating the AI or directing its use in the inventive process is recognized as the legal inventor. This ensures that human agency remains central to patentability	**Scope of AI-Related Patent Reforms**	Germany and France are at the forefront of discussions about AI and patent law, actively engaging in debates about how patent law may need to evolve to address the increasing role of AI. These countries are more likely to propose and lead reforms to existing IP laws to accommodate AI-related inventions. Other countries, such as Poland and Romania, have not yet taken any significant steps toward legislative reforms addressing AI patentability, relying heavily on existing frameworks without indicating a pressing need for change
Patentability of AI-Assisted Inventions	All EU countries allow for the patenting of inventions that are assisted by AI, provided they meet the standard criteria of novelty, inventive step, and industrial applicability. This means that AI can be used as a tool in the invention process, but the human operator is considered the inventor	**Scope of AI-Related Patent Reforms**	Germany and France are at the forefront of discussions about AI and patent law, actively engaging in debates about how patent law may need to evolve to address the increasing role of AI. These countries are more likely to propose and lead reforms to existing IP laws to accommodate AI-related inventions. Other countries, such as Poland and Romania, have not yet taken any significant steps toward legislative reforms addressing AI patentability, relying heavily on existing frameworks without indicating a pressing need for change
	AI-assisted inventions, such as those involving machine learning algorithms or automated design	**Scope of AI-Related Patent Reforms**	Germany and France are at the forefront of discussions about AI and patent law, actively engaging in debates about how patent law may need to evolve to address the increasing role of AI. These countries

Common Features		Distinctive Features	
	systems, are treated similarly to traditional inventions as long as the human inventor plays a meaningful role in directing the inventive process		are more likely to propose and lead reforms to existing IP laws to accommodate AI-related inventions. Other countries, such as Poland and Romania, have not yet taken any significant steps toward legislative reforms addressing AI patentability, relying heavily on existing frameworks without indicating a pressing need for change
Technical Effect Requirement	Across the EU, for an AI-related invention to be patentable, it must provide a "technical effect" beyond the mere implementation of an AI algorithm. This requirement is uniform across member states and is reinforced by the EPO's guidelines. The invention must solve a technical problem in a novel and non-obvious way	**National Patent Office Guidance**	Some countries, like the Netherlands, have issued guidance through their national patent offices on the patentability of AI-related inventions. This guidance helps applicants understand how AI innovations will be treated under current laws. Other countries, such as Greece and Romania, have not yet provided detailed guidance specific to AI-related patents, and as a result, the interpretation of AI inventions may rely more heavily on case-by-case analysis through judicial decisions.
	Merely applying an AI algorithm to a problem, without demonstrating a technical contribution, is not sufficient for patentability in any EU country	**Public Policy Discussions on AI and Patents**	Germany, France, and the Netherlands have been more active in public discussions on AI and intellectual property, reflecting their more advanced AI ecosystems. These discussions are leading to a more proactive approach in considering whether patent laws should be updated to address AI's growing role in innovation. Greece and Romania, on the other hand, are adopting a more reactive approach, waiting for broader EU-level guidance before initiating discussions on the need for changes in patent law regarding AI.
Adherence to European Patent Office Guidelines	All EU countries adhere to the EPO's guidelines when it comes to patenting AI-related inventions. These guidelines specify that an invention must be both novel and inventive, with the inventive step involving human ingenuity. This alignment with the EPO ensures consistency across member states regarding AI patentability	**Patentability of AI Technologies Themselves**	In countries like Germany and the Netherlands, there is more engagement with the patenting of AI technologies themselves (such as new machine learning models or algorithms) if they provide a technical effect. These countries are likely to have a greater volume of AI-related patent filings and more sophisticated case law on the subject. In countries with less developed AI industries, like Greece or Romania, fewer patents may be filed for AI technologies, leading to less clarity in how these innovations are treated within their patent systems.

Source: systematized by the authors

The patentability of AI-related inventions in EU countries reflects a balance between preserving the traditional human-centric approach to inventorship and accommodating the growing role of AI in innovation. Common features include the universal requirement for human inventorship, adherence to the EPO's technical effect requirements, and the patentability of AI-assisted inventions. Distinctive features emerge in the degree of flexibility in interpreting inventive steps, the scope of public policy discussions, and the level of guidance provided by national patent offices. While no EU country currently allows AI to be listed as an inventor, some are more actively exploring how patent laws may need to evolve to address the growing influence of AI technologies on innovation.

Comparative Analysis of Regulatory Acts of EU Countries on Trademark Issues Related to AI-Generated Content. The increasing use of artificial intelligence (AI) in content creation, including the development of trademarks, presents new challenges for intellectual property law. Trademarks, which serve as identifiers of the source of goods or services, are traditionally associated with human creators or businesses. However, AI's involvement in generating logos, brand names, slogans, and other trademark elements introduces complexities in trademark ownership, originality, and the potential for conflicts over similarity and infringement. This comparative analysis explores how selected EU countries address trademark issues related to AI-generated content, focusing on ownership, registration requirements, and infringement concerns.

Germany. In Germany, trademark law is based on the EU's harmonized framework, particularly the European Union Trade Mark (EUTM) system, which

applies across all member states. Like other EU countries, Germany does not have specific regulations addressing trademarks created by AI, but existing laws govern the ownership and registration of trademarks regardless of how they were generated.

German law requires a legal entity (either a natural person or a business) to own a trademark. Since AI cannot hold legal rights, trademarks generated by AI must be registered under the name of the human or entity that operates or commissions the AI. Trademarks must be distinctive to be registered, which applies to AI-generated trademarks as well. The German Patent and Trademark Office (DPMA) applies the same standard of distinctiveness, regardless of whether the mark was created by AI or a human. Germany follows EU rules regarding trademark infringement. AI-generated trademarks could potentially infringe upon existing trademarks if they are too similar, which raises questions about the role of AI in monitoring potential conflicts. Since AI can create content at a much faster rate, there is concern that AI-generated trademarks might increase the likelihood of unintentional infringement.

France. France's trademark law follows the EU Trade Mark (EUTM) system, which ensures consistency with other member states. Like Germany, France does not have specific rules for AI-generated trademarks, but its legal framework governs ownership and registration processes for all trademarks. In France, trademarks must be owned by a legal person, meaning AI cannot be the legal owner of a trademark. If an AI system generates a trademark, the rights are held by the individual or organization responsible for the AI. French law requires trademarks to be distinctive and not deceptive. AI-generated marks must meet the same criteria as human-created ones. The use of AI may raise additional concerns about originality, especially if AI algorithms generate similar or identical marks to existing ones. France, like Germany, must address the challenge of AI-generated trademarks potentially infringing upon existing marks. Since AI can generate vast numbers of trademarks, businesses may need to employ AI-based monitoring systems to detect potential conflicts early.

Netherlands. In the Netherlands, trademark law is aligned with the broader EU framework, and like other EU countries, it does not yet have specific rules regarding AI-generated trademarks. The ownership and registration of trademarks follow the same rules, whether the content was created by AI or a human. As in other EU countries, AI cannot own trademarks in the Netherlands. Trademarks created by AI are owned by the individual or entity that controls the AI system. This could be a business that commissions the AI or a designer using AI tools. The Dutch trademark system requires trademarks to be distinctive and not conflict with existing marks. AI-generated trademarks must meet the same standards as human-created ones. The use of AI may make it easier to create large volumes of trademark content, raising questions about the potential for repetitive or similar marks. The Netherlands has seen early discussions on the implications of AI in trademark law, particularly the risk of AI-generated marks unintentionally infringing upon existing trademarks. There is a growing awareness of the need for automated systems to monitor trademark conflicts in a rapidly evolving digital landscape.

Poland. Poland follows the EU Trade Mark (EUTM) regulations, which govern trademark ownership, distinctiveness, and infringement at the national and EU levels.

AI-generated trademarks are not specifically addressed in Polish law, but the existing legal framework applies. Similar to other EU countries, trademarks in Poland must be registered by a natural or legal person. AI-generated marks are owned by the human or organization that controls or commissions the AI. There are no provisions allowing AI itself to own trademarks. Poland's trademark office, like others in the EU, evaluates whether a mark is distinctive and meets the legal requirements for registration. AI-generated trademarks are subject to the same scrutiny as human-created marks, and distinctiveness is key to obtaining trademark protection. Poland is exploring how AI-generated content might affect trademark infringement, especially in cases where AI tools generate marks that are too similar to existing ones. This raises the possibility of increased monitoring requirements to prevent unintentional conflicts due to the scale of AI's content generation capabilities.

Greece. Greek trademark law, like that of other EU countries, aligns with the EU-wide EUTM system. Greece does not have specific regulations for AI-generated trademarks, and the legal framework treats all trademarks under the same rules, regardless of how they are created.

AI cannot hold trademarks in Greece. Trademarks generated by AI must be owned by a natural person or a legal entity that controls the AI system. Greek law does not distinguish between AI-generated and human-created marks for purposes of ownership. Greece applies the same distinctiveness requirement to all trademarks, including those created by AI. To be eligible for protection, the trademark must be sufficiently distinctive and not conflict with existing marks. Greece has yet to engage in significant legal discussions regarding AI's impact on trademark law, but there are concerns about the potential for AI-generated marks to increase the risk of infringement. The sheer volume of content created by AI may require more advanced monitoring systems to ensure compliance with trademark law.

Romania. Romania follows the EU Trade Mark regulations, which govern how trademarks are registered, owned, and enforced. Like other EU countries, Romania does not have specific provisions for AI-generated trademarks, and current laws treat AI-generated and human-created marks under the same legal framework. In Romania, trademarks must be owned by a natural or legal person. AI-generated trademarks cannot be owned by AI itself, and the ownership rights belong to the individual or organization responsible for the AI's use. As with other EU countries, Romania requires that trademarks be distinctive and not misleading. AI-generated trademarks must meet the same standards as human-created ones to qualify for registration. Romania, like other countries, faces the potential challenge of AI-generated trademarks unintentionally infringing on existing marks. The lack of legal provisions specific to AI-generated marks may require enhanced monitoring and enforcement systems to keep up with the speed at which AI can generate new trademarks.

Trademark issues related to AI-generated content across EU countries share several common features, including the requirement for human or legal entity ownership of trademarks, the distinctiveness requirement for trademark registration, and concerns about potential infringement. Distinctive features emerge in the level of engagement with AI-related trademark issues, with countries like Germany, France,

and the Netherlands leading discussions on potential reforms and the need for advanced monitoring systems, while Poland, Greece, and Romania take a more conservative approach, relying on existing legal frameworks. As AI continues to play a larger role in content creation, these differences may influence how quickly individual countries adapt their trademark laws to address the challenges posed by AI-generated content.

Common and Distinctive Features in the Regulatory Acts of EU Countries on Trademark Issues Related to AI-Generated Content. The emergence of artificial intelligence (AI) in the creation of trademarks presents new challenges for the traditional legal frameworks governing trademark law. While AI can generate logos, brand names, and other trademark elements, the core principles of trademark law in the EU are still designed with human authorship and ownership in mind. This analysis outlines the common and distinctive features of the regulatory acts across EU countries regarding trademark issues related to AI-generated content, focusing on ownership, distinctiveness, and potential infringement.

Table 3. The common and distinctive features of the regulatory acts across EU countries regarding trademark issues related to AI-generated content, focusing on ownership, distinctiveness, and potential infringement

Common Features		Distinctive Features	
Human or Legal Entity Ownership Requirement	Across all EU countries, trademarks must be registered by a natural person or a legal entity (such as a business). AI cannot be the legal owner of a trademark. This is a universally applied principle based on the European Union Trade Mark (EUTM) regulations.	**Level of National Engagement with AI-Generated Trademark Issues**	Germany, France, and the Netherlands have initiated more advanced discussions on the implications of AI-generated trademarks. These countries are exploring whether current trademark laws are sufficient to address the complexities of AI-generated content, particularly in areas like originality, ownership, and monitoring for potential conflicts.
	Whether AI creates a trademark independently or assists in its creation, the ownership of the trademark is attributed to the human or business that operates or commissions the AI. This ensures that legal responsibility for the trademark remains with a human or corporate entity.		Poland, Greece, and Romania have taken a more conservative approach, relying on existing legal frameworks without actively engaging in policy debates about AI's impact on trademark law. These countries are more likely to adopt reforms in response to broader EU directives rather than leading discussions themselves.
Trademark Distinctiveness Requirement	The distinctiveness requirement is consistently enforced across all EU countries. A trademark, whether AI-generated or human-created, must be distinctive enough to identify the goods or services it represents and must not be misleading or confusingly similar to existing trademarks.	**Monitoring Systems for Trademark Conflicts**	Germany, France, and the Netherlands are more advanced in considering the need for automated or AI-based tools to monitor potential trademark conflicts. Given AI's ability to create large volumes of trademarks, these countries recognize the importance of developing systems that can efficiently detect similarities or conflicts with pre-existing trademarks.
	All EU countries adhere to the European Union Intellectual Property Office (EUIPO) standards, where AI-generated trademarks must meet the same criteria as human-created ones to be eligible for registration. The AI's involvement in the creation process does not lower the threshold for distinctiveness.		Poland, Greece, and Romania have yet to make significant strides in this area. While there is awareness of the challenges posed by AI-generated trademarks, these countries have not yet developed comprehensive strategies or systems to address the scale of content generation by AI.
Harmonization Under the EUTM System	The EUTM system, which provides for the registration and protection of trademarks across the EU, creates a harmonized legal framework that governs trademark issues in all member states. This framework ensures consistency in how AI-generated trademarks are handled throughout the EU, including the processes for registration, ownership, and enforcement.	**Distinctiveness Interpretation**	France tends to have a stricter interpretation of distinctiveness, particularly in the context of AI-generated trademarks. The French trademark office may apply more rigorous standards to ensure that AI-generated marks are not misleading or too similar to existing marks, reflecting France's broader emphasis on originality and creativity in intellectual property.
	All EU member states rely on the EUTM system for resolving cross-border trademark disputes and ensuring that trademarks are uniformly protected within the EU, regardless of how they are created.		In contrast, Germany and the Netherlands focus more on the technical application of distinctiveness criteria. As long as the trademark can sufficiently distinguish the goods or services it represents, it may be more easily accepted for

Common Features		Distinctive Features	
			registration, regardless of whether it was created by AI or a human.
Trademark Infringement Concerns	Across all EU countries, there are concerns about the potential for AI-generated trademarks to increase the likelihood of infringement. AI's ability to generate large volumes of trademarks rapidly could lead to unintentional conflicts with existing registered marks.	**AI-Generated Trademark Conflicts and Enforcement**	Germany and France are more actively exploring how trademark law enforcement might need to evolve to handle AI-related conflicts. Both countries have recognized the potential for AI-generated trademarks to unintentionally infringe upon existing trademarks and are considering new enforcement mechanisms to address these challenges.
			Greece and Romania have been slower to address the enforcement challenges posed by AI-generated trademarks. These countries continue to apply traditional trademark enforcement processes without specific adjustments for the scale of content creation enabled by AI.
	Trademark law in the EU includes provisions to address infringement, but the introduction of AI-generated content has prompted discussions on whether enhanced monitoring systems or tools will be necessary to detect conflicts between AI-generated trademarks and existing ones.	**Potential for Legislative Reforms**	Germany, France, and the Netherlands are leading discussions on the potential for legislative reforms to address AI-generated trademarks. These countries are considering whether additional legal provisions are needed to clarify the role of AI in trademark creation and ownership, as well as to enhance protection against AI-driven infringement.
			Poland, Greece, and Romania have not yet initiated any significant legal reforms in this area. These countries are more likely to wait for EU-level directives or guidance before implementing changes to their national trademark laws.

Source: systematized by the authors

Trademark issues related to AI-generated content across the EU exhibit several common features, including the human or legal entity ownership requirement, the application of distinctiveness standards, and the harmonization of trademark laws through the EUTM system. However, there are also distinctive features in how different EU countries engage with AI-generated trademark issues, particularly in terms of monitoring systems, the interpretation of distinctiveness, enforcement strategies, and the potential for legislative reforms. While Germany, France, and the Netherlands are more proactive in addressing the challenges posed by AI-generated trademarks, Poland, Greece, and Romania continue to rely on existing frameworks and are less likely to initiate reforms independently. As AI continues to play a larger role in content creation, these distinctions may shape how quickly individual countries adapt their trademark laws to address the complexities of AI-generated content.

Comparative Analysis of Regulatory Acts of EU Countries on Enforcement Mechanisms in the Context of AI and Intellectual Property (IP) Disputes. As artificial intelligence (AI) plays a growing role in creating, using, and infringing intellectual property (IP), the enforcement of IP rights has become more complex. European Union (EU) member states, while aligned in some areas due to harmonized EU frameworks, show variance in how they approach enforcement mechanisms related to AI and IP disputes. This comparative analysis examines the enforcement mechanisms of selected EU countries in the context of AI-related IP disputes, focusing on legal procedures, technological enforcement, and challenges in adjudicating cases where AI is involved.

Germany. Germany is known for its strong intellectual property enforcement framework, and this is reflected in how it approaches AI-related IP disputes. German courts and legal structures are well-equipped to handle complex IP disputes, though the rise of AI presents new challenges, particularly in identifying liability and addressing potential gaps in traditional IP enforcement.

Germany has a robust judicial system for enforcing IP rights, with specialized IP courts and well-established legal procedures. In the context of AI, the courts rely on existing IP laws, but issues of AI ownership and liability can complicate enforcement, particularly when determining the responsible party for AI-related infringements. Germany has embraced the use of digital tools to monitor and enforce IP rights. Automated systems for tracking infringement, including those facilitated by AI, are becoming more common, allowing rights holders to detect potential violations early. This is particularly relevant for trademarks, patents, and copyright infringements caused by AI-generated content. One key challenge in Germany is determining whether AI-generated content infringes on existing IP rights. German law currently treats AI as a tool, meaning that the human operator or entity responsible for the AI must face legal consequences for infringement. Courts are still working through how to assign liability when AI autonomously violates IP rights.

France. France, like Germany, has a highly developed IP enforcement system. French law focuses on protecting the moral and economic rights of IP holders, but AI-related disputes pose new challenges, particularly in the areas of copyright and trademarks, where AI may generate content that infringes upon existing rights.

France has specialized IP courts that handle enforcement disputes, and like Germany, the country is grappling with how to address AI-related issues within existing legal frameworks. French courts apply traditional IP laws in AI-related cases, with a focus on determining whether human oversight is present and whether infringement was intentional. In addition to judicial processes, France is increasingly using mediation and arbitration in IP disputes, including those involving AI. These alternative dispute resolution mechanisms provide a faster and less costly way to resolve complex cases, including those related to AI infringement. France is exploring the use of AI and automated systems to monitor IP rights and detect potential violations. These tools are particularly important in the creative industries, where AI-generated content can quickly spread and infringe upon copyrights and trademarks. However, the challenge remains in establishing clear guidelines for assigning liability when AI is involved in the infringement.

Netherlands. The Netherlands has an efficient and technologically advanced IP enforcement system, with a focus on digital innovation in monitoring and protecting IP rights. The rise of AI has pushed the country to adapt its enforcement mechanisms, particularly in handling disputes where AI is used in the creation or infringement of IP.

Dutch courts follow the general principles of IP law but are increasingly involved in cases where AI plays a central role. The Netherlands emphasizes quick and efficient enforcement of IP rights, with specialized courts able to handle complex disputes involving AI. The Netherlands is a leader in implementing AI and machine learning tools to enforce IP rights. These tools help rights holders identify infringements, particularly in the digital space, where AI can generate vast amounts of content. These technologies allow for early detection and resolution of IP disputes before they escalate into costly litigation. Like other countries, the Netherlands faces challenges in determining liability in AI-related IP disputes. Courts are still working through whether

the human operator of the AI, the developer, or another entity is responsible for infringements caused by autonomous AI systems.

Poland. Poland's IP enforcement system is less developed compared to Germany, France, and the Netherlands, but the country is making strides in modernizing its legal and technological infrastructure to handle AI-related IP disputes. Poland's approach to enforcement is primarily judicial, with growing use of digital tools to support IP monitoring.

In Poland, IP disputes, including those related to AI, are resolved through traditional court systems. While there are no specific regulations addressing AI in IP enforcement, courts rely on existing legal principles to resolve cases. One area of focus is identifying who is legally responsible for AI-generated content that infringes IP rights. Poland is beginning to explore AI-based tools for detecting IP infringements, though these systems are less advanced compared to other EU countries. The country is investing in automated monitoring systems to help track violations, particularly in industries where AI is commonly used, such as media and technology. As in other countries, Poland faces the challenge of assigning liability in cases where AI autonomously infringes on IP rights. Polish courts have so far treated AI as a tool, holding the operator or developer responsible for the infringement. However, as AI systems become more autonomous, this approach may face legal challenges.

Greece. Greece's IP enforcement mechanisms are primarily judicial, and the country has not yet fully developed the technological infrastructure to handle AI-related IP disputes. As AI becomes more integrated into various industries, Greece is facing new challenges in enforcing IP rights, particularly in the context of AI-generated content.

Greece's IP enforcement is conducted primarily through its court system. While the courts are capable of handling complex IP disputes, the country has not yet developed specific legal frameworks for addressing AI-related IP cases. Judges must apply existing IP laws, which can be difficult when AI is involved in creating or infringing content. Greece has yet to adopt advanced technological enforcement tools like AI-driven monitoring systems. As a result, enforcement in AI-related cases is less proactive, relying more on traditional methods of detecting and resolving IP disputes. One of the key challenges in Greece is determining the extent of human involvement in AI-generated content. Courts are still figuring out how to assign liability, especially in cases where the AI operates autonomously or with minimal human input.

Romania. Romania is in the early stages of adapting its IP enforcement mechanisms to the challenges posed by AI. Like Greece, Romania relies primarily on judicial processes for resolving IP disputes, but it is beginning to explore how digital tools can be used to support enforcement in AI-related cases.

Romanian courts handle IP disputes using traditional legal principles, and there are no specific regulations addressing AI in this context. Courts must determine whether the human operator, the developer, or another party is responsible for AI-generated IP infringements. Romania is starting to invest in digital tools to support IP enforcement, though it lags behind more advanced EU countries. These tools are particularly relevant in industries where AI-generated content is growing, such as

technology and creative industries. As in other EU countries, Romania's legal system struggles with how to assign liability in cases where AI autonomously creates content that infringes on IP rights. Romanian courts are likely to hold the human operator responsible, but as AI becomes more autonomous, this may become increasingly difficult to enforce.

Enforcement mechanisms in the context of AI and IP disputes across EU countries share several common features, including reliance on judicial enforcement, the use of existing IP laws, and challenges in assigning liability for AI actions. However, there are notable distinctive features in how countries like Germany, France, and the Netherlands are more proactive in adopting technological enforcement tools and exploring legal reforms, while countries like Poland, Greece, and Romania are still in the early stages of adapting their enforcement mechanisms to the challenges posed by AI. As AI continues to play a larger role in content creation and IP disputes, these differences may shape how quickly and effectively individual countries adapt their enforcement systems to address the complexities of AI-driven innovation.

Common and Distinctive Features in the Regulatory Acts of EU Countries on Enforcement Mechanisms in the Context of AI and Intellectual Property (IP) Disputes. As artificial intelligence (AI) becomes more prominent in intellectual property (IP) creation, use, and potential infringement, EU countries are adapting their enforcement mechanisms to address these new challenges. The enforcement of IP rights, traditionally designed for human-driven creations, now faces complexities introduced by AI's involvement. This analysis outlines the **common** and **distinctive** features in the regulatory frameworks of EU countries regarding the enforcement mechanisms for AI-related IP disputes (Table 4).

Table 4. The common and distinctive features in the regulatory frameworks of EU countries regarding the enforcement mechanisms for AI-related IP disputes

Common Features		Distinctive Features	
Judicial Enforcement as the Primary Mechanism:	Across all EU countries, judicial systems remain the primary method for resolving IP disputes, including those involving AI-generated content or AI-driven IP infringement. Courts are the main venues for adjudicating issues such as ownership, infringement, and liability.	**Adoption of Technology-Driven Enforcement Tools:**	Germany, France, and the Netherlands have advanced significantly in adopting digital and AI-driven tools to monitor and enforce IP rights. These countries use sophisticated software systems to detect IP infringement, often leveraging AI to help identify violations more efficiently. These systems are crucial in dealing with the scale of content that AI can generate, especially in industries such as media, technology, and design.
	No EU country has implemented specific legal frameworks for AI-related IP disputes, meaning existing IP laws are applied to AI-related cases. Courts typically rely on established principles of IP law to handle disputes, which can create challenges when dealing with AI's autonomous actions.		In contrast, countries like Poland, Greece, and Romania have been slower to implement such technological tools. While these countries are beginning to explore digital enforcement methods, they primarily rely on more traditional, manual processes for detecting and addressing IP violations, which may be less effective in handling AI-related disputes.
Liability Assigned to Human Operators or Legal Entities:	In all EU countries, AI is treated as a tool, not an independent entity. Therefore, when AI is involved in IP infringement or creation, the liability falls on the human or legal entity responsible for the AI's operation, use, or programming.	**Alternative Dispute Resolution (ADR) Mechanisms:**	France and the Netherlands have taken significant steps in promoting alternative dispute resolution (ADR) mechanisms, such as arbitration and mediation, to resolve complex IP disputes, including those involving AI. These ADR processes offer faster and more cost-effective resolutions, particularly for cases where AI's role complicates traditional litigation.
	Courts uniformly hold that the operator, developer, or controller of the AI system must face legal consequences for AI-related IP disputes. This approach ensures that there is always a legal entity accountable, even in cases where AI autonomously generates content that infringes on existing IP rights.		Other countries, such as Germany and Poland, use ADR mechanisms but still place greater emphasis on court-based resolutions for AI-related IP disputes. Greece and Romania rely heavily on their court systems and have yet to adopt widespread use of ADR in IP enforcement.

Common Features		Distinctive Features	
Harmonization Under EU IP Directives:	All EU countries are aligned under broader EU IP regulations, including directives like the Copyright Directive and the Trademark Directive, which provide a harmonized framework for resolving IP disputes. These EU-level regulations are applied uniformly to AI-related IP cases, ensuring consistency in enforcement across member states.	**Engagement with Legal Reforms and AI-Specific Guidelines:**	Germany, France, and the Netherlands are leading discussions on potential legal reforms to address the challenges posed by AI in IP disputes. These countries are actively exploring how IP law may need to evolve to deal with AI's growing autonomy, and there is ongoing debate about whether new regulations are needed to clarify liability and ownership in AI-related cases.
	The European Union Intellectual Property Office (EUIPO) provides guidelines and frameworks that all EU countries follow, meaning that the foundational legal approach to AI and IP enforcement is similar across jurisdictions.		Poland, Greece, and Romania are less engaged in these legal reform discussions. These countries tend to take a more reactive approach, waiting for EU-level directives or broader international guidelines before making significant changes to their national legal frameworks for AI and IP enforcement.
Emerging Challenges in Assigning Liability for AI Actions:	Across the EU, there is a growing recognition that assigning liability in AI-related IP disputes can be complex, especially as AI systems become more autonomous. Courts in all countries must grapple with questions such as whether the developer, operator, or end user should be held responsible when AI infringes on IP rights.	**Judicial Expertise and Specialized Courts:**	Germany and France have highly specialized IP courts with expert judges who are well-versed in handling complex IP disputes, including those involving AI. These courts are better equipped to address the nuanced technical and legal issues that arise in AI-related cases.
	As AI systems become more sophisticated, the challenge of assigning liability becomes more difficult, as the level of human control or oversight may diminish in AI-driven actions.		In countries like Poland and Romania, IP cases are handled by general courts, which may not have the same level of expertise in addressing the specific challenges posed by AI-driven IP disputes. As a result, enforcement in these jurisdictions may be slower or less predictable when AI is involved.
Lack of Specific AI Regulations for IP Enforcement:	No EU country has introduced specific regulations addressing AI's role in IP enforcement. Instead, existing IP laws are being adapted to cover AI-related disputes. While discussions on legal reforms are ongoing, all countries currently rely on their traditional IP frameworks to address AI issues.	**Monitoring and Enforcement Systems for AI-Generated Content:**	Germany, France, and the Netherlands have invested in automated systems that use AI to monitor for IP infringements, particularly in sectors where AI-generated content is prevalent. These systems allow for early detection of potential violations, helping rights holders prevent and address infringements more effectively.
			Greece, Poland, and Romania have not yet developed comprehensive AI-based monitoring systems for IP enforcement. These countries still rely on traditional monitoring methods, which may be insufficient to keep up with the volume and complexity of AI-generated content.

Source: systematized by the authors

In summary, EU countries share several common features in their enforcement mechanisms for AI-related IP disputes, including reliance on judicial enforcement, the assignment of liability to human operators or legal entities, and the application of harmonized EU-level IP frameworks. However, there are also significant distinctive features among EU member states. Germany, France, and the Netherlands are more advanced in adopting technology-driven enforcement tools, promoting ADR mechanisms, and engaging in discussions about legal reforms to address AI's growing role in IP disputes. In contrast, Poland, Greece, and Romania are slower in adopting these changes and tend to rely more on traditional IP enforcement methods, with less emphasis on advanced technological solutions or reform initiatives.

As AI continues to play an increasing role in IP creation and infringement, these differences in enforcement mechanisms may shape how effectively individual EU countries can address the complex legal challenges posed by AI-driven innovation and IP disputes.

Discussion. The increasing integration of artificial intelligence (AI) into the fields of intellectual property (IP) creation and management has raised significant questions for European Union (EU) countries regarding how best to regulate and protect IP rights in this new technological landscape. The comparative analysis of regulatory acts on IP protection in the context of AI across EU member states reveals both common

approaches influenced by EU-wide harmonization efforts and distinct national-level interpretations shaped by each country's legal traditions and economic priorities.

Common Challenges Across the EU. The most prominent common challenge faced by EU countries is that traditional IP frameworks, designed for human creators and inventors, struggle to accommodate the role of AI. The foundational requirement for human authorship and inventorship is present across all member states, as EU directives and national laws emphasize that only natural persons or legal entities can be recognized as authors or inventors. This creates a legal gap for fully autonomous AI-generated works and inventions.

AI's ability to autonomously generate content—whether in the form of artistic works, musical compositions, or technical inventions—raises difficult questions about ownership and liability. Across the EU, there is consensus that AI cannot be considered the legal author or inventor, but countries differ in their responses to the role AI plays in the creative process. For example, in copyright law, if an AI-generated work lacks sufficient human input, it falls outside of the scope of protection, leaving such works without legal recognition. Patent law presents similar difficulties, as AI systems increasingly contribute to the inventive process, yet the requirement for human inventorship remains a significant hurdle.

Furthermore, all EU countries share concerns about how to monitor and enforce IP rights in a landscape where AI-generated content can be produced at unprecedented scales. This challenge underscores the need for new technological tools and legal strategies to effectively detect and manage potential infringements. EU member states are investing in AI-driven enforcement systems, though the extent of these efforts varies.

Divergent National Approaches. While EU directives such as the Copyright Directive and the European Patent Convention provide a common framework for IP protection, significant national variations remain, especially regarding how individual countries interpret key legal concepts such as originality, inventorship, and ownership in the context of AI.

Germany and France are at the forefront of addressing the regulatory challenges posed by AI. These countries are heavily invested in AI technologies and have initiated discussions about reforming IP laws to better accommodate AI's role in creation and innovation. Germany, with its strong tradition of patent law, has emphasized the need for clear human involvement in the inventive process, while France's focus on the originality requirement in copyright law has led to more restrictive interpretations of AI-generated works.

The Netherlands has adopted a more flexible approach, allowing for broader interpretations of how AI can assist in the creation of IP without necessarily requiring substantial human involvement in every case. However, like other member states, it stops short of granting AI itself the status of creator or inventor.

Poland, Greece, and Romania have been slower to address the specific challenges posed by AI in IP law, relying more heavily on existing frameworks and waiting for broader EU guidance. These countries are generally more reactive, adopting changes once EU directives or landmark court cases provide further clarity.

The variations in national approaches also extend to enforcement mechanisms. Germany and the Netherlands have led the way in adopting AI-driven tools to monitor and enforce IP rights, while countries such as Poland and Romaniaare still in the early stages of implementing such technologies. This disparity in technological infrastructure could create gaps in enforcement capabilities across the EU, particularly as AI-generated content proliferates.

Legal and Policy Implications for Harmonization. The EU has made significant strides in harmonizing IP law through directives such as the Copyright Directive and the Digital Single Market Strategy. However, the challenges posed by AI highlight the limits of these harmonization efforts. The complexity of AI-generated works and inventions requires more nuanced and flexible regulatory frameworks than what is currently provided by existing EU directives.

Several policy proposals have emerged to address these gaps. One option under consideration is to introduce new categories of IP rights specifically for AI-generated content, which would recognize the role of AI in the creative and inventive process without undermining the human-centered nature of traditional IP rights. Another proposal focuses on joint authorship and inventorship, where AI is seen as an "assistant" in the creative process, allowing humans to retain legal recognition while acknowledging AI's contribution.

At the EU level, there is also a growing recognition that IP enforcement will require more sophisticated AI-based monitoring tools to handle the sheer volume of content generated by AI systems. The European Commission has already begun exploring how such tools can be integrated into IP enforcement mechanisms to ensure that rights holders can effectively protect their IP in a rapidly changing digital landscape.

Moving Forward: Policy Recommendations. Given the complexities that AI introduces into IP law, a multi-faceted approach is necessary to ensure effective protection and enforcement of intellectual property across the EU:

- *Legal Reforms:* EU member states need to explore potential legal reforms that would recognize the role of AI in the creative and inventive process without granting AI full authorship or inventorship rights. One possible solution is the introduction of AI-assisted IP rights that reflect the collaborative nature of AI and human creators.
- *Technological Enforcement: All* EU member states should invest in AI-driven enforcement tools that can detect and monitor IP infringement on a larger scale. These systems would help mitigate the challenges posed by the high volume of AI-generated content, particularly in the fields of copyright and trademark.
- *Harmonization Efforts:* The EU should continue to push for further harmonization of IP laws in the context of AI, particularly by introducing new directives or regulations that address the specific legal gaps identified by member states. Greater clarity on the concepts of authorship, inventorship, and ownership in relation to AI is essential for ensuring consistent application across the EU.
- *Cross-Border Cooperation:* Given the cross-border nature of AI-generated content, EU countries should work more closely on joint enforcement strategies and share

best practices for handling AI-related IP disputes. This would help address discrepancies in enforcement capabilities and ensure a more consistent approach to protecting IP rights within the EU.

Conclusion. The comparative analysis of the regulatory acts across EU countries on the protection of intellectual property (IP) in the context of artificial intelligence (AI) highlights both the challenges and opportunities that AI presents to traditional IP frameworks. While the EU has made significant progress in harmonizing IP laws through directives like the Copyright Directive and the European Patent Convention, AI's autonomous capabilities introduce complexities that existing laws are not fully equipped to address.

The analysis reveals that all EU countries maintain the requirement for human authorship and inventorship, making it difficult for fully autonomous AI-generated works and inventions to be recognized under current IP regimes. This gap underscores the need for legal reform, as AI continues to advance and play a larger role in the creation of creative and technical content.

At the same time, significant national differences remain in how EU member states interpret and apply key legal concepts such as originality, ownership, and liability in the context of AI. Countries like Germany, France, and the Netherlandshave taken proactive steps to adapt their regulatory frameworks, investing in AI-driven enforcement tools and exploring potential reforms. Meanwhile, countries such as Poland, Greece, and Romania have been slower to address these challenges, largely waiting for broader EU-level guidance.

Moving forward, the EU faces a critical need to further harmonize its approach to AI and IP, ensuring that its legal frameworks remain fit for purpose in the digital age. This includes the potential introduction of new legal categories for AI-generated content, investment in AI-powered enforcement systems, and continued collaboration between member states to share best practices and jointly address the unique challenges posed by AI.

Ultimately, the balance between fostering AI innovation and protecting IP rights will be crucial for ensuring that Europe remains a leader in both technological development and intellectual property protection in the years to come.

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CHAPTER 3
THEORETICAL AND PRACTICAL ASPECTS OF MODERN PSYCHOLOGY

PSYCHOLOGICAL SUPPORT OF THE DEVELOPMENT OF THE REHABILITATION POTENTIAL OF EMPLOYEES OF THE FORCE

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Abstract. *The article the main approaches to the psychological support of the process of development of rehabilitation potential of specialists of law enforcement agencies. The purpose of our article is to study the peculiarities of social functioning and the leading factors of mental trauma in specialists of law enforcement agencies with depressive disorders of neurotic origin. During the research, the following methods were used: analysis of special, scientific and methodological literature, analysis of documentary materials, observation, testing, experiment, methods of mathematical statistics. Factors of development of rehabilitation potential of personality are characterized. The peculiarities of the systemic structure of mental phenomena and the concept of psychological support of the process of development of rehabilitation potential are considered. The need to implement a systematic approach based on empirical data, which includes research aimed at harmonizing the psychological state of law enforcement officers, is emphasized. Empirical research has revealed the peculiarities of the social functioning of specialists in law enforcement agencies with depressive disorders of neurotic origin. There are differences in the psychological well-being of professionals with depressive disorders of neurotic origin and people without mental disorders, namely: people without mental disorders are characterized by a predominance of interest in life, reflecting their interest in everyday life, enthusiasm for what is happening; in people with mental disorders, the indicators of "consistency in achieving goals" and "consistency between goals and their achievement" are such that indicate inadequate assessment and inability to use their own strength to achieve the goal.*

Keywords: *rehabilitation potential, psychological state, specialists of law enforcement agencies, development, methodological approach, social support, psychological support.*

JEL Classification: H 10, I 18

Formulas: 0; fig. 0; tabl. 1; bibl. 11

Introduction. According to many scientists, the social functioning of man is the mechanism that determines his social nature and allows him to be a person. But despite the fact that the individual is mainly considered as a social phenomenon, its formation is influenced by both psychogenic and exogenous-endogenous factors.

It is known that any disorder, even if it is not accompanied by destructive changes in brain activity, necessarily changes the psyche due to the emergence of new forms of response to the outside world. Such diseases include such a biochemical disorder as depression, which affects almost 300 million people worldwide.

Literature review. According to many scientists, for a long time, the problem of health was not among the priority research interests of psychological science (Culbertson, 2010). But lately, it is considered not only in the medical field, but also in the psychological, because at the heart of the problem is the individual (Constand, 2014).

Thus, the psychological rehabilitation of a person suffering from depressive disorder is an urgent socio-psychological problem due to the growing prevalence and increase in the number of people with this pathology. According to the WHO, approximately 4-5% of the world's population suffers from depression, with the risk of developing lifelong depression reaching 10% in men and up to 20% in women (Coventry, 2015). According to WHO forecasts, by 2022, depression will rank first among diseases in the world, surpassing today's leaders - infectious and cardiovascular diseases (Arshava, 2019). The medical and social consequences of depression are diverse and severe (Bengel, 2018). These include: high risk of suicide, impaired adaptive capacity, reduced professional status, family breakdown, disability, loss of social ties and reduced quality of life in general (Bennabi, 2015). The need for their comprehensive rehabilitation is due to the fact that mental illness leads to personality changes, social maladaptation and significantly reduces the ability of professionals to social functioning (Chung, 2018).

The conducted research in the field of rehabilitation of specialists reflects different opinions of scientists on this process (Burlakova, Sheviakov, 2021). The history of rehabilitation shows a certain dynamics of views with a shift of emphasis from occupational rehabilitation to social and psychosocial rehabilitation (Bohlmeijer, 2011).

When discussing rehabilitation, researchers more often emphasize their personal characteristics, rehabilitation potential, give more importance to the forms and methods of the actual rehabilitation impact much less affect the socio-environmental environment (Caza, 2010). Meanwhile, this objective factor plays a significant role in rehabilitation and its importance cannot be ignored (Christian, 2011).

Aim. The purpose of our article is to study the peculiarities of social functioning and the leading factors of mental trauma in specialists of law enforcement agencies with depressive disorders of neurotic origin.

Methodology. During the research, the following methods were used: analysis of special, scientific and methodological literature, analysis of documentary materials, observation, testing, experiment, methods of mathematical statistics.

175 people took part in the study of the peculiarities of social functioning as components of psychological rehabilitation potential: the main group consisted of 91 specialists with depressive disorders of neurotic origin and 84 people without mental disorders were included in the control group.

Objectives of the study:

1. To conduct a theoretical and methodological analysis of approaches to the problem of rehabilitation of the individual in modern society.

2. To build a conceptual model of the phenomenon of rehabilitation in modern society.

3. To construct and test methods of psychological diagnostics of rehabilitation potential of personality.

4. Develop criteria for distinguishing between different forms of rehabilitation in modern society.

5. Investigate the psychological possibilities of developing constructive forms of rehabilitation potential of the individual.

6. To propose a socio-psychological program for the correction of destructive forms of rehabilitation of the individual in modern society and evaluate its effectiveness.

To achieve this goal, the following set of methods was used: questionnaire I. Karler, test "Life Satisfaction Index" in the adaptation of N. Panina and methods of mathematical data processing. The obtained data were processed using SPSS 15.0 and MS Excel v.8.0.3 programs.

Results. To study the peculiarities of social functioning in various fields, specialists of law enforcement agencies with depressive disorders of neurotic origin used the questionnaire I. Karler, the results of which identified areas of greatest trauma and dissatisfaction. Thus, it was found that specialists with neurotic depression were dissatisfied with relationships with spouses (58.65 ± 13.47)%, with relatives (52.76 ± 11.63)%, and there was a lack of satisfaction with professional and social spheres. 44.68 ± 10.31)% and (42.62 ± 10.12)%, respectively). Among people without mental disorders, the level of dissatisfaction with the spheres of social functioning was below average: dissatisfaction with marital relations was 32.96%, relations with relatives - 34.78%, professional activity - 32.33% and social sphere - 34.09%.

Statistical analysis of the results showed that the overall level of dissatisfaction with social functioning was higher in patients with neurotic depression than in persons without mental illness ($p < 0.05$), which was manifested in greater dissatisfaction with relationships with relatives, spouses, occupational and social spheres. specialists with neurotic disorders compared to healthy ($t = 6,349$, $p < 0,0001$; $t = 6,341$, $p < 0,0001$; $t = 4,761$, $p < 0,0001$ and $t = 5,102$, $p < 0,001$, respectively).

For a more detailed analysis, some data scales were analyzed to establish the specifics of the areas of mental trauma among specialists with depressive disorders of neurotic origin. Thus, in the field of marital relations in specialists with neurotic depression, the most pronounced area of mental trauma was defined as extramarital relations (3.67 ± 1.22 points), misunderstandings about the division of responsibilities (3.67 ± 1.17 points), lack of emotional intimacy between spouses (3.24 ± 1.47 points),

different attitudes towards money (3.15 ± 1.29 points) and lack of mutual understanding with spouses (3.02 ± 1.07 points). In persons without mental pathology, there were slight difficulties in understanding the division of family responsibilities (2.35 ± 1.44 points), and dissatisfaction associated with excessive employment at work of one of the partners (2.32 ± 0.92 points)).

A detailed analysis of the leading areas of mental trauma in relations with relatives revealed that specialists with neurotic depression had difficulties in relations with relatives living in the same area (4.25 ± 1.15 points), lack of satisfactory family and domestic situation (4 , 11 ± 1.22 points), misunderstanding with mother and mother-in-law (or mother-in-law) (3.97 ± 1.10 and 3.45 ± 0.92 points, respectively), the presence of illness of a family member or the need to care for him (2 , 69 ± 0.96 points), as well as problems with children (2.38 ± 0.64 points). Persons without mental disorders were characterized by difficulties in communicating with the mother of the spouse (2.13 ± 0.67 points), especially if they live in the same area (2.13 ± 0.84 points), and children (2.08 ± 0.71 points).

Peculiarities of mental trauma in the professional sphere of specialists with neurotic depression were associated with strained relationships with management and colleagues (3.25 ± 1.21 and 2.83 ± 1.12 points, respectively), with overload at work (3.89 ± 0.90 points), insufficient recognition (3.26 ± 0.71 points) and dissatisfaction with work that does not meet professional interests (3.45 ± 1.27 points). In persons without mental disorders, the areas of conflict were insufficient recognition (2.13 ± 1.26 points) and overwork (2.68 ± 1.07 points).

The definition of areas of mental trauma in the social sphere showed the predominance of frustration in politicians (4.78 ± 0.51 points), the contradiction between socio-political guidelines and reality (3.77 ± 1.23 points), differences in worldviews and political positions 2.67 ± 0.74 and 2.65 ± 0.87 points) in specialists with neurotic depression. Healthy people were also disappointed in politicians (3.89 ± 1.15 points).

Statistical analysis of the results allowed to identify the leading areas of mental trauma in specialists with depressive disorders of neurotic origin. Thus, it was found that specialists with neurotic depression were more pronounced and representative of the areas of mental trauma in marital relationships. Thus, specialists with neurotic depression were dominated by difficulties related to extramarital affairs and the division of responsibilities in the family ($t = 3,242$, $p < 0,001$ and $t = 2,461$, $p < 0,025$, respectively), as well as misunderstandings about the intentions to have children and distribution of money ($t = 2.253$, $p < 0.025$ and $t = 2.914$, $p < 0.005$, respectively) compared to healthy people. It was determined that specialists with neurotic depression experienced greater difficulties in mutual understanding with spouses ($t = 2,162$, $p < 0,05$) and lack of emotional intimacy ($t = 2,712$, $p < 0,025$) than healthy ones. It should be emphasized that sexual dysfunction ($p < 0.001$) and lack of understanding of leisure ($p < 0.01$) distinguished specialists with depressive disorders of neurotic origin from people without mental illness.

Probable differences were also found in the field of relations with relatives: dissatisfaction with the family situation ($p < 0.0001$), relations with the mother of the

husband or wife (p <0.025), with relatives living in the same area (p < 0.001) distinguished specialists with neurotic depression from healthy ones. Specialists with neurotic depression differed from those without mental disorders in the greater severity of difficulties in understanding with parents (t = 4.122, p <0.001) and relatives of the wife (t = 2.489, p <0.025).

Peculiarities of mental trauma in the professional sphere of specialists with neurotic depression differed from the control group by the predominance of tense relationships with management (p <0.0001) and colleagues (p <0.05), as well as difficulties associated with the mismatch of work to professional interests p <0.001).

In order to understand the characteristics of satisfaction with different areas of life of law enforcement officers, assess psychological comfort and socio-psychological adaptability, an analysis of components of psychological well-being and index of life satisfaction among professionals with neurotic depression. For this purpose, the test "Life Satisfaction Index" was used in the adaptation of N. Panina (table 1).

Table 1. Features of the psychological well-being of specialists with depressive disorders of neurotic origin (according to the results of the test "LSI")

Name of indicators	Level severity	Specialists with neurotic depression	Control group	DC	MI	P
		N = 91	N = 84			
Life satisfaction index (LSI)	high	20,88 ± 2,06	32,14 ± 3,19	1,87	0,11	0,331
	average	43,96 ± 3,66	47,62 ± 4,15	0,35	0,01	0,107
	low	35,16 ± 3,15	20,24 ± 2,18	-2,40	0,18	**0,012**
Interest in life	high	20,88 ± 2,06	38,10 ± 3,61	2,61	0,22	**0,005**
	average	49,45 ± 3,91	45,24 ± 4,03	-0,39	0,01	0,103
	low	29,67 ± 2,76	16,67 ± 1,83	-2,50	0,16	**0,018**
Consistency in achieving goals	high	24,18 ± 2,34	29,76 ± 3,01	0,90	0,03	0,096
	average	34,07 ± 3,07	46,43 ± 4,09	1,34	0,08	**0,030**
	low	41,76 ± 3,54	23,81 ± 2,50	-2,44	0,22	**0,005**
Consistency between goals and achievements	high	15,38 ± 1,57	34,52 ± 3,37	3,51	0,34	**0,001**
	average	35,16 ± 3,15	40,48 ± 3,76	0,61	0,02	0,095
	low	51,65 ± 3,99	25,00 ± 2,61	-3,15	0,42	**0,000**
Positive self-esteem	high	25,27 ± 2,43	23,81 ± 2,50	-0,26	0,00	0,136
	average	51,65 ± 3,99	61,90 ± 4,60	0,79	0,04	**0,048**
	low	23,08 ± 2,25	14,29 ± 1,59	-2,08	0,09	0,519
General mood background	high	20,88 ± 2,06	36,90 ± 3,53	2,47	0,20	**0,008**
	average	47,25 ± 3,81	45,24 ± 4,03	-0,19	0,00	0,116
	low	31,87 ± 2,92	17,86 ± 1,95	-2,52	0,18	**0,014**

As can be seen from Table 1, 49.45% of specialists with neurotic depression had an average level of interest in life, 29.67% - low and 20.88% - high. That is, most professionals with neurotic depression have a moderate interest in life. Another situation was observed on the scale of "consistency in achieving the goal": most professionals were defined as low (41.76 ± 3.54)%, 34.07% - medium and 24.18% - high level of expression of this indicator . That is, specialists with neurotic depression

in most cases tended to take a passive life position in the face of failures and did not try to solve them.

There was also a predominance of people with a low level of coordination of goals and achievements in life (51.65 ± 3.99)%, which reflected the presence of intrapersonal conflicts among patients in this group. It should be noted that 25.27% of professionals tended to evaluate themselves and their actions, 51.65% - self-esteem was average and 23.08% of professionals - low.

It was found that in the vast majority of specialists with neurotic depression, the general mood was satisfactory (47.25 ± 3.81)% or reduced (31.87 ± 2.92)%, as well as a general index of life satisfaction, which reflects the feeling of psychological comfort, 43.96% of specialists were characterized by average indicators, 35.16% - low and only 20.88% of specialists were satisfied with their own lives.

Individuals without mental disorders were characterized by a predominance of high and medium levels of interest in life (38.10 ± 3.61)% and (45.24 ± 4.03)%, respectively), which reflected their interest in everyday life, enthusiasm that happens. It was found that in people without mental disorders, the indicators of "consistency in achieving goals" and "consistency between goals and their achievement" were mostly average (46.43 ± 4.09)% and (40.48 ± 3.76) %, respectively), which indicated an adequate assessment and use of their own efforts to achieve the goal. It should also be noted that the vast majority of experts determined the average level of positive self-esteem (61.90 ± 4.60)%, which corresponded to adequate self-esteem. It was determined that in 36.90% of people without mental disorders the general mood was characterized by high indicators, in 45.24% - average and only in 17.86% of people the mood was reduced. A similar trend was observed in the assessment of the overall index of life satisfaction and psychological comfort: 32.14% of patients had a high level of satisfaction, 47.62% - medium and 20.24% - low.

A comparative analysis of psychological well-being among professionals with depressive disorders and people without mental disorders was conducted. Statistical analysis of the results revealed that the general index of life satisfaction of people with high levels of satisfaction was more among healthy people, and specialists with low levels - among patients with neurotic depression ($p < 0.01$, DC = 2.40, MI = 0, 18). Interest in life was higher among healthy people, who had more people with a high level of severity, compared with specialists with neurotic and endogenous depression ($p < 0.005$, DC = 2.61, MI = 0.22), among whom there were more people with low interest in life ($p < 0.01$, DC = 2.50, MI = 0.16). Determination and resilience in achieving goals also distinguished people without mental disorders, who had more people with a medium level ($p < 0.05$, DC = 1.34, MI = 0.08), from specialists with neurotic depression, who were characterized by passivity to achieve their own goals ($p < 0.005$, DC = 2.44, MI = 0.22). There were more people with a high level of self-confidence in overcoming failures among people without mental disorders compared with neurotic depression ($p < 0.001$, DC = 3.51, MI = 0.34), which was dominated by people with a low level of confidence. $p < 0.0001$, DC = 3.15, MI = 0.42). There were more people with adequate self-esteem among healthy people than among patients with neurotic depression ($p < 0.048$, DC = 0.79, MI = 0.04). It was also found that the general

mood was high among people without mental illness ($p < 0.01$, DC = 2.47, MI = 0.20), while patients with neurotic depression were dominated by people with low mood ($p < 0.01$, DC = 2.52, MI = 0.18).

Thus, the assessment of the characteristics of psychological components of psychological rehabilitation potential of law enforcement officers with depressive disorders of neurotic origin revealed that social functioning, psychological well-being, features of interpersonal and family communication are important components that determine psychological rehabilitation.

The normative components of the psychological rehabilitation potential of people without mental disorders were identified, reflecting the features of psychological well-being and can be considered as a standard / goal of rehabilitation intervention, which included: overall life satisfaction (47.62%), interest in life (45.24%)), determination and resilience in achieving goals (46.43% and 40.48%), a high level of self-confidence (61.90%).

Discussion. The study also revealed specific areas of mental trauma, such as marital problems, strained relationships with relatives, and difficulties in the professional environment. These findings underline the necessity of focusing on psychological well-being, which includes elements such as life satisfaction, interest in life, and goal achievement, when designing rehabilitation programs. The lower levels of life satisfaction, self-confidence, and emotional resilience among law enforcement officers with depressive disorders emphasize the need for targeted psychological interventions to support their recovery and reintegration into social and professional roles.

The comparison between specialists with neurotic depression and those without mental disorders demonstrates that healthy individuals tend to have higher levels of life satisfaction, interest in life, and goal achievement. This suggests that psychological rehabilitation programs should aim to enhance these aspects in individuals with depressive disorders, making them a standard for intervention. Rehabilitation strategies should address both the psychological and social dimensions of recovery, as social functioning is a critical component of mental health rehabilitation.

The study highlights the complex interplay between mental health, social functioning, and psychological rehabilitation potential in law enforcement officers with depressive disorders. The identification of key areas of dissatisfaction and mental trauma provides a basis for developing differentiated psychocorrection programs that target these specific issues. By focusing on improving interpersonal relationships, enhancing emotional resilience, and fostering a sense of purpose, these programs can help law enforcement officers with neurotic depression restore their psychological well-being and improve their quality of life.

Conclusions. As a result of the study, differentiated components of psychological rehabilitation deficit were identified, which reflected the specificity of depressive disorders of law enforcement officers, which included:

- expressed passive position in overcoming difficult situations;
- dissatisfaction with social functioning in the family, professional, social spheres;

- the presence of factors of mental trauma: in marital relationships (lack of mutual understanding and emotional intimacy, the presence of extramarital relationships, inconsistencies in the distribution of responsibilities, finances and intention to have children); in relations with relatives (dissatisfaction with the family situation, relations with the wife's parents and with relatives living in the same area); in the professional sphere (strained relations with management and colleagues, lack of recognition, inconsistency of work with professional interests); in the social sphere (differences in worldviews);

- features of psychological well-being: low level of life satisfaction index, low mood background, low level of interest in life, lack of consistency between goals and achievements, low level of self-confidence and passive life position.

Thus, the obtained data should be taken into account when determining the psychological rehabilitation potential for specialists in law enforcement agencies with depressive disorders of neurotic origin and can be considered as targets for rehabilitation intervention in the creation of differentiated psychocorrection programs.

Author contributions. The authors contributed equally.

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THE PSYCHOLOGICAL IMPACT OF TRAUMATIC EXPERIENCES ON FAMILY PERCEPTIONS AMONG YOUTH

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Abstract. *In modern psychology, childhood trauma is recognized as a critical factor influencing personal development and mental health. Traumatic experiences disrupt a young individual's inner world, affecting their life trajectory and relationships. While these experiences can cause distress and reduce quality of life, they also have the potential to build resilience. Among youth, trauma frequently reshapes family perceptions, impacting trust, emotional bonds, and family dynamics. This article aims to explore the complex interplay between trauma and family perceptions, with implications for caregivers, educators, and mental health professionals. The study seeks to examine how traumatic childhood experiences influence youth perceptions of family dynamics, relationships, and values. By understanding these impacts, the study aims to provide insights into the role of family as a support system in fostering resilience and promoting trauma recovery among young people. The study employs a mixed-methods approach, combining theoretical analysis with empirical research involving 47 students from the National University "Zaporizhzhia Polytechnic." Data collection tools include the Traumatic Events Questionnaire, Eysenck's Self-Assessment of Mental States, and the Childhood Trauma Presence Questionnaire. Quantitative data are analyzed using descriptive statistics, while qualitative data are examined through thematic analysis. A correctional-developmental training program, "The Impact of Childhood Trauma on Future Family Formation," is integrated to provide therapeutic intervention. The findings reveal that childhood trauma significantly impacts youth perceptions of family, often leading to heightened anxiety, frustration, and rigidity. Trauma was observed to affect family attachment and trust, with some youth perceiving their families as less supportive. Conversely, supportive family environments were shown to mitigate these negative effects, highlighting the protective role of positive family relationships in trauma recovery. The intervention program demonstrated potential in improving resilience and family perceptions among participants. The study underscores the importance of therapeutic programs that address the psychological effects of trauma on youth, with an emphasis on family-based interventions. By fostering resilience and supporting healthy family relationships, these interventions can help youth navigate the long-term impacts of trauma. Future research should explore the influence of cultural and socioeconomic factors on family perceptions and trauma recovery, to better inform intervention strategies across diverse populations.*

Keywords: *childhood trauma; family perceptions; psychological impact; youth development; emotional well-being; mental health; traumatic experiences; trauma recovery; social support systems; family-based therapy.*

JEL Classification: I 14, I 31

Formulas: 0; fig.: 3; table: 2; bibl.: 24

Introduction. In modern psychology, particular attention is given to studying the effects of childhood psychological trauma on an individual's later life and personal development. Traumatic experiences in childhood directly impact a person's life: on one hand, they disrupt the integrity of the inner spiritual world and alter one's life path, while on the other hand, they mobilize a person's inner strength and build resilience.

Psychological traumas are emotional wounds that cause concern, discomfort, diminish quality of life, and bring suffering. Similar to physical injuries, psychological trauma can vary in its intensity of "pain," and thus, the "healing" and recovery process will also differ accordingly.

Traumatic experiences can have profound and far-reaching effects on young individuals, influencing various aspects of their psychological and emotional well-being. Among these impacts, the way youth perceive their families often undergoes significant changes, as traumatic events can alter family dynamics, trust levels, and emotional bonds.

Understanding this relationship is essential for caregivers, educators, and mental health professionals who work with young people, as family perceptions are often closely tied to their coping mechanisms, resilience, and overall mental health.

By examining both the challenges and potential paths for healing, this article aims to shed light on the complex interplay between trauma and family perceptions, offering insights into the critical role families play in the recovery process for youth affected by trauma.

Literature Review. Trauma can have significant and varied effects on young people, influencing not only their personal development but also their perceptions of family dynamics. This literature review explores the existing research on the psychological impact of trauma on youth and how these experiences can shape their views on family relationships.

Youth exposed to trauma often experience a range of psychological effects, including anxiety, depression, and post-traumatic stress disorder (PTSD). Research shows that traumatic experiences can disrupt normal developmental trajectories, leading to difficulties in emotional regulation, identity formation, and relationship building (Pynoos et al., 1999). Additionally, adolescents are in a critical stage of cognitive and emotional development, making them particularly vulnerable to the lasting effects of trauma (Cicchetti & Toth, 2005).

Traumatic experiences can alter a young person's perception of their family in several ways. Youth who have faced trauma may struggle with trust issues, perceive their family as less supportive, and experience shifts in their attachment patterns (Shapiro & Applegate, 2000). In some cases, trauma can lead to negative perceptions of family members, particularly if the trauma is related to family dysfunction or conflict (Briere & Jordan, 2009). Conversely, trauma can also strengthen family bonds in situations where family members provide consistent support and understanding (Walsh, 2007).

Attachment theory provides a useful framework for understanding the effects of trauma on family perceptions among youth. Secure attachments are often protective, helping youth to cope with the aftermath of trauma more effectively (Bowlby, 1988).

However, when trauma disrupts these attachments, it can lead to adverse outcomes, including heightened perceptions of familial instability and reduced feelings of safety within the family unit (van der Kolk, 2005).

The presence of supportive family relationships can serve as a crucial factor in building resilience in trauma-exposed youth (Masten, 2001). Positive family perceptions can buffer against the negative effects of trauma, promoting healthier coping strategies and facilitating recovery (Luthar et al., 2000). However, when familial support is absent or perceived as inadequate, youth may struggle to develop effective coping mechanisms, exacerbating the psychological impact of trauma (Afifi & MacMillan, 2011).

Several therapeutic interventions have been shown to be effective in addressing trauma and improving family perceptions among youth. Family-based therapies, such as Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), focus on rebuilding trust and enhancing communication within the family (Cohen et al., 2006). Additionally, community support systems and school-based programs can provide valuable resources for trauma recovery and family reintegration (Jaycox et al., 2002).

Research conducted by Alešenko (2022) highlights the profound effects of childhood trauma on both psychological and emotional development. Alešenko emphasizes that trauma experienced in youth can lead to a range of mental health issues, such as anxiety and depressive disorders, which can persist into adulthood. These findings are consistent with broader research that links early trauma to long-term psychological difficulties (Engle et al., 2020).

Arsenyan (2023) discusses the critical role that family values play in the formation of social roles among youth. The study suggests that traumatic experiences can disrupt the transmission of these values, altering how young individuals perceive their roles within the family and society. This research builds on previous findings by Kolygin et al. (2018), which propose that disrupted family values due to trauma may impact a young person's ability to form secure social connections.

The concept of the family as a fundamental component of a health-preserving educational space is explored by Burlakova and Zhitchenko (2018). They argue that family support systems play a vital role in mitigating the adverse effects of trauma, contributing to the overall well-being of youth. Their work emphasizes that strong family bonds can serve as a protective factor, fostering resilience and aiding in recovery from traumatic experiences.

Litvinova (2013) addresses the challenges faced by families in preserving core values amidst societal transformations. She posits that rapid changes in social structures can exacerbate the negative effects of trauma on family perceptions, as traditional support mechanisms may weaken. Her work underscores the importance of adaptive family structures that can withstand external pressures, thus providing a stable environment for youth affected by trauma.

Collectively, this literature suggests that the psychological impact of trauma on family perceptions among youth is shaped by a combination of individual, familial, and societal factors. These studies highlight the need for further research to explore how family dynamics can be strengthened to support youth who have experienced

trauma, and how cultural contexts influence the ways in which trauma affects family perceptions. This line of inquiry is essential for developing targeted interventions that promote resilience and facilitate recovery in trauma-affected youth populations.

Overall, the literature suggests that the psychological impact of trauma on family perceptions among youth is complex and multifaceted. Understanding these dynamics can inform the development of targeted interventions aimed at fostering resilience, supporting family cohesion, and promoting long-term psychological well-being for trauma-exposed youth.

Aims. This study aims to explore the psychological impact of traumatic experiences on youth and how these events shape their perceptions of family dynamics, relationships, and values. Specifically, the research seeks to understand the ways in which childhood trauma influences young people's emotional responses, attachment patterns, and family interactions. By examining these factors, the study also aims to contribute insights into the role of family as a support system for trauma recovery and resilience.

Methodology. Through a combination of theoretical analysis and empirical research, the study will provide a comprehensive view of how trauma affects family perceptions among youth, highlighting the need for targeted interventions to foster positive family relationships and promote mental well-being in trauma-affected individuals.

The research design is structured to capture the complexity of trauma's influence on family dynamics, individual emotional states, and coping mechanisms in youth. The study involves 47 students from the National University “Zaporizhzhia Polytechnic,” representing a diverse sample in terms of age, gender, and academic specialization. This sample size is selected to provide a comprehensive perspective on how trauma affects youth across various demographic groups, enhancing the generalizability of the findings.

The study uses a multi-step data collection process, focusing on three primary tools:

- *Traumatic Events Questionnaire*: Developed by V. H. Panok, this questionnaire assesses the presence and severity of traumatic experiences in youth. It categorizes trauma into different intensity levels—low, medium, and high—based on the reported psychological impact on respondents. This tool helps identify the prevalence and types of traumatic experiences among the participants.
- *Self-Assessment of Mental States*: Using H. Eysenck’s Self-Assessment of Mental States, the study evaluates various emotional conditions, including anxiety, frustration, aggressiveness, and rigidity. This method provides insight into how trauma influences specific psychological states, which are critical to understanding the broader impact on family perceptions.
- *Childhood Trauma Presence Questionnaire*: The Childhood Trauma Presence Questionnaire, by Yu. Damochkina, is used to identify specific traumatic experiences during childhood, including abandonment, rejection, deprivation, betrayal, sexual seduction, violence, and humiliation. This tool allows the study to

examine the types of trauma most commonly experienced by the participants and their lasting effects.

Quantitative data from the questionnaires are analyzed using descriptive statistics, including percentages and frequency distributions. This approach provides an overview of the prevalence and types of trauma experienced by the participants, as well as the associated levels of anxiety, frustration, aggressiveness, and rigidity. Qualitative data from open-ended responses in the questionnaires and participant interviews are analyzed using thematic analysis. This method identifies recurring themes and patterns, particularly regarding how traumatic experiences influence perceptions of family dynamics, trust, and emotional bonds.

Following the data collection and analysis, the study includes a six-week correctional-developmental training program, "The Impact of Childhood Trauma on Future Family Formation." The program consists of seven lessons designed to address and mitigate the effects of childhood trauma on youth perceptions of family. The lessons focus on topics such as self-esteem, anxiety management, frustration tolerance, and aggression control. Each session incorporates therapeutic exercises aimed at fostering resilience and promoting healthier family perceptions.

The study adheres to ethical guidelines for research involving human subjects. Informed consent is obtained from all participants, and confidentiality is strictly maintained. Given the sensitive nature of the topic, participants are provided with information on counseling services should they experience distress during or after the study.

By employing a comprehensive methodology that combines empirical research with a targeted intervention program, the study aims to deepen the understanding of trauma's impact on family perceptions among youth and contribute to the development of effective therapeutic strategies.

Results. Psychological trauma is an intense and disruptive experience that significantly impacts a person's life and development. Each psychological trauma is a unique kind of experience that leaves a mark on the psyche, manifesting as distinct symptoms. Following a traumatic event, individuals need considerable energy and effort for self-analysis, reevaluation, acceptance of their past, behavioral improvement, and the development of a new outlook on their future.

From this perspective, representatives of the psychoanalytic approach use clinical methods that synthesize information from various sources to build a detailed profile of the individual child's personality.

Typically, traumatic stress develops under the following conditions:

- The child perceives the situation as inescapable;
- The child is unable to effectively resist the situation;
- The child cannot release emotional energy (state of paralysis);
- There is an unresolved prior traumatic experience.

This is due to children's lack of experience and resources to adequately respond to traumatic events.

The main Types of Childhood Trauma are:

1. *Abandonment Trauma* arises when there is an absence or lack of physical contact with the mother in early childhood. The child is not physically separated from the mother until they learn to walk independently, causing intense anxiety and fear during her absence. Those who experience abandonment trauma are prone to various dependencies, symbiotic relationships, immaturity, and fear of losing loved ones.

2. *Rejection Trauma* occurs in "cold" mothers who do not emotionally engage in their children's lives ("rejection" in psychoanalytic terminology) due to factors like postpartum depression, stress, unwillingness to have children, family issues, or absence of a partner. Individuals who experience this trauma often feel unnecessary and unwanted, struggle to express their feelings, and avoid close emotional relationships and emotional self-expression.

3. *Deprivation Trauma* happens when the child's needs do not align with what the mother provides. The mother may not comfort the child when they cry, alleviate their fears, or provide the necessary care, support, and attention. Individuals with this trauma often feel neglected, continuously seek attention, tend to be manipulative, and feel dissatisfied with their lives.

4. *Betrayal Trauma* arises when parents fail the child emotionally (such as witnessing intimate parental interactions). A variant of this is *"abandonment trauma"* (Adler's term), occurring when a younger sibling is born and receives more parental attention. Those with betrayal trauma often lose trust in others, feel alienated, or try to please others to symbolically "regain" parental love.

5. *Sexual Seduction Trauma* occurs when adults use children and adolescents to satisfy their own sexual desires, resulting in significant sexual and emotional issues.

6. *Violence Trauma* involves systematic abuse and physical harm inflicted by adults. Children who suffer from this trauma often develop psychopathic traits and antisocial personalities.

7. *Humiliation and Narcissistic Trauma* can lead to lowered self-esteem, feelings of worthlessness, and an inferiority complex, often resulting in a distorted self-concept. Psychological traumas, such as humiliation, violence, rejection, and betrayal, can also occur in adulthood but generally follow a repetitive childhood pattern.

The issue of childhood trauma is unique in that it can disrupt a child's healthy outlook and lead to mental disorders and complexes in adulthood. While no one is immune to trauma, minimizing situations that may lead to psychological trauma is crucial wherever possible. Childhood experiences profoundly shape an individual's worldview, as childhood lays the foundation for a fulfilling future.

Social Aspects of Childhood Trauma. The social context plays a critical role in the development and resolution of childhood trauma. Traumatic events occur in various social contexts and have different impacts on children. Family, often considered the primary unit of society, is a place where children find safety, support, and care. However, not all family situations are happy, and some children may face challenging family circumstances leading to trauma. Family relationships, parenting styles, domestic violence, and conflicts can all traumatize children, while family support plays a crucial role in overcoming trauma's effects. The family environment is essential in

the emergence and resolution of trauma, an important social aspect in the study of childhood trauma.

Social support is vital in overcoming childhood traumatic experiences. It is defined by the closeness and quality of interpersonal relationships and the availability of help and understanding from others. Social support acts as a modifying factor that influences how individuals cope with and experience trauma.

David Macionis remarked, "The family is a social institution found in all societies, bringing people together in groups to nurture and educate children." He also stated that family bonds and kinship are nearly synonymous, representing social connections through blood, marriage, or adoption.

In Matskovsky's work, the primary functions of the modern family are divided into social and personal functions. For example:

- *Social functions* include the biological reproduction of society, while *personal functions* relate to fulfilling desires for children.
- In the *educational sphere*, social functions involve the socialization of younger generations and the preservation of cultural continuity, while personal functions include fulfilling parental needs, bonding with the child, providing care, and fostering the child's self-realization.
- In the *social-status sphere*, social functions include granting a particular social status to family members, reproducing social structure, and satisfying the need for social advancement.

Table 1. The main functions of a modern family

The sphere of family activity	Social functions	Individual functions
Reproductive	Biological reproduction of society	Meeting the needs of children
Educative	Socialization of the young generation. Support of cultural continuity of society.	Satisfying needs in parenting, contact with children, their upbringing, self-realization in children.
Household - domestic	Support of physical health of members of society, care of children.	Receipt of household services by some family members from others.
Economical	Economic support of minors and disabled members of society.	Receipt of material means by some family members from others (in case of incapacity or in exchange for services).
The sphere of primary social control	Moral regulation of the behavior of family members in various spheres of life, as well as the responsibility of obligations in relations between spouses, parents and children, representatives of the older and middle generations.	Formation and support of legal and moral sanctions for inappropriate behavior and violation of moral norms of relationships between family members.
The sphere of spiritual communication	Personality development of family members.	Spiritual mutual enrichment of family members. Strengthening the marital foundations of the marriage union.
Social status	Providing a certain social status to family members. Reproduction of the social structure.	Meeting needs in social promotion.
Permissive	Organization of rational leisure. Social control in the field of leisure.	Satisfying needs for joint leisure time, mutual enrichment of leisure interests.
Emotional	Emotional stabilization of individuals and their psychological therapy.	Individuals receiving psychological protection, emotional support in the family. Satisfaction of needs for personal happiness and love.
Sexy	Sexual control.	Satisfying sexual needs.

Source: developed by the authors

Family Values are a set of specific beliefs, principles, traditions, and views that are formed within a family and define the lifestyle, relationships, and values of all family members. The core values of a modern family include trust, love, kindness, loyalty, understanding, and respect. Family values play a crucial role in shaping a child's character and lay the foundation for their future life, influencing their morality, attitude toward others, and self-perception.

In analyzing the concept and classification of childhood trauma, its types, and consequences, it can be concluded that childhood trauma plays a significant role in shaping young people's perceptions of family and their personal family values. The concept and classification of childhood trauma encompass a range of negative events that can leave a deep psychological impact. These include physical, emotional, and sexual abuse, neglect, and witnessing violence. Each of these types of trauma can have a different effect on a child's psychological state and development.

The typology and consequences of childhood trauma highlight the diversity of trauma responses, including anxiety, frustration, and rigidity, which may persist throughout life. Meanwhile, aggression as a consequence of childhood trauma may be less direct and dependent on other factors. The formation of young people's perceptions of their own families shows that traumatic experiences in childhood significantly influence how they perceive and build family relationships.

Trauma can lead to negative beliefs about family and difficulties in establishing trust and forming healthy relationships. The connection between traumatic impact and the formation of family values confirms that childhood trauma affects not only personal development but also the value systems that young people develop with their families. This influence can be both negative and transformative, contributing to the development of coping skills and strengthening mental health through professional support and therapy.

Childhood trauma is a fundamental factor determining psychological well-being and the formation of family values in young people. Childhood traumas can leave deep marks on the psyche, affecting emotional state, behavior, and the ability to form healthy relationships in adulthood. Appropriate work with traumatized youth is essential for developing a healthy family concept and building positive future relationships.

Effective support and therapeutic interventions can help young people cope with the aftermath of traumatic events, leading to a better understanding of themselves and their emotional needs. Timely psychological assistance and support can help prevent the recurrence of negative behavioral and developmental patterns, fostering the formation of positive models for future family relationships.

The aim of our study is to explore and understand the psychological dimensions of traumatic impact on young people's concept of family. The study involved 47 students from the National University “Zaporizhzhia Polytechnic.” The sample includes students of different ages, genders, and specializations, which allows for more diverse and representative data.

For our study, we selected several key methods, each of which allows us to investigate the chosen topic. The first method we applied is particularly significant for

our research; it is a questionnaire designed to examine traumatic events (author: V. H. Panok). Using this, we explored traumatic experiences.

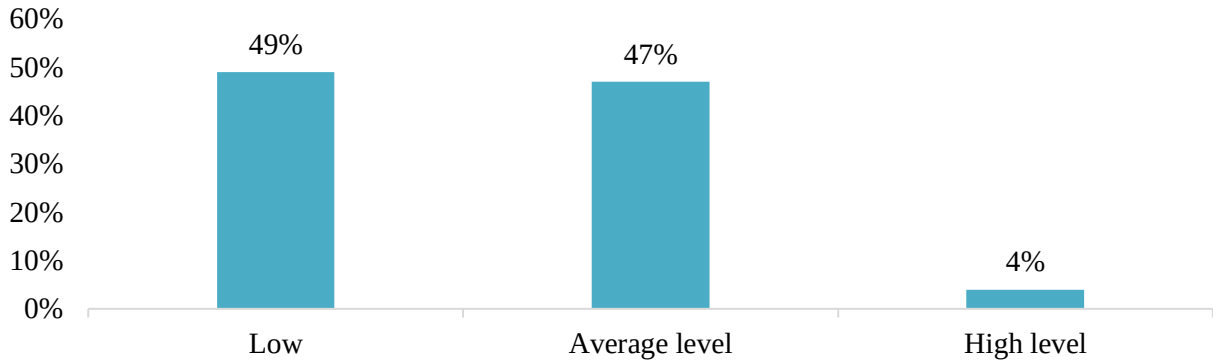

Figure 1. Research results using a questionnaire for investigating a psychotraumatic event

Source: developed by the authors

The columns in the chart show the percentage of respondents who have experienced psychotraumatic events in each category of psychotrauma level that received positive reinforcement. The results are as follows: low level - 49% of respondents, medium level - 47%, and high level - 4%.

A low level indicates that an individual has experienced one or several psychotraumatic events, but these events did not have a significant impact on their mental health. A medium level suggests that an individual encountered multiple psychotraumatic events, which had a moderate impact on their mental health. A high level indicates that an individual has experienced a series of traumatic events that greatly affected their mental health.

The next method we investigated is the "Self-Assessment of Mental States" technique by H. Eysenck. This method evaluates various mental states, such as anxiety, frustration, aggressiveness, and rigidity. Let us now examine the results of each of these states in detail. The first state we will discuss is anxiety. The results of the anxiety assessment help identify a tendency towards anxious reactions in various life situations.

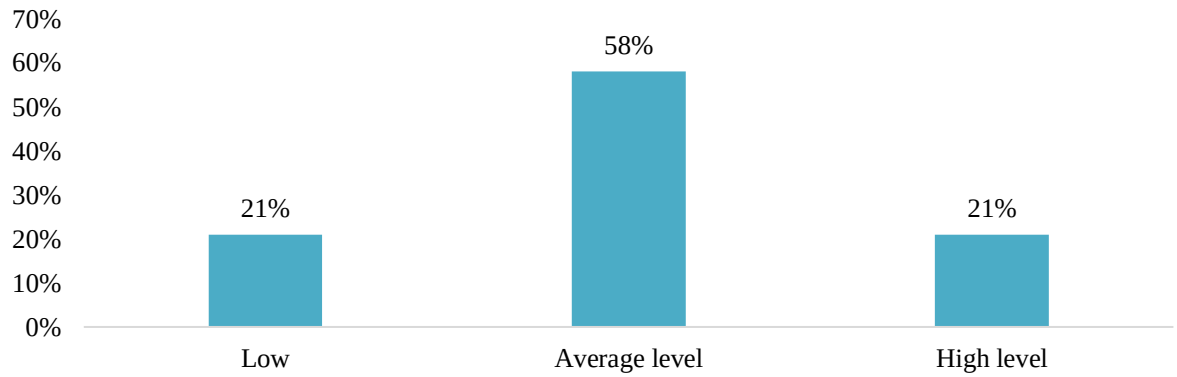

Figure 2. Results of the Study Using the "Self-Assessment of Mental States" Methodology

Source: developed by the authors

The diagram shows the distribution of individuals according to their level of anxiety. It consists of three segments, each corresponding to a different level of anxiety: low, medium, and high. Each segment indicates the percentage representing the proportion of individuals with the respective anxiety level. According to the diagram, most individuals—58%—exhibit a medium level of anxiety. Meanwhile, 21% of people have a low level of anxiety, and 21% have a high level of anxiety.

A high level of anxiety is characterized by an intense and persistent sense of worry, tension, and fear.

The medium level is associated with moderate feelings of worry and nervousness that occur occasionally.

A low level implies less anxiety, calmness, and confidence.

The next question we examined is the "Childhood Trauma Presence" questionnaire by Yu. Damochkina, which is designed to identify childhood traumas. The diagram presents a visual depiction of the prevalence of childhood traumas among the respondents.

The diagram reveals that 81% of respondents confirmed experiencing childhood trauma, while 19% either did not experience trauma in childhood or do not acknowledge its presence.

This visualization shows that childhood traumas are a common phenomenon. The high frequency of traumatic childhood events experienced by the majority supports this assertion. These traumas can vary widely in nature, ranging from physical injuries to emotional or psychological traumas, such as family violence, parental divorce, bullying, or neglect.

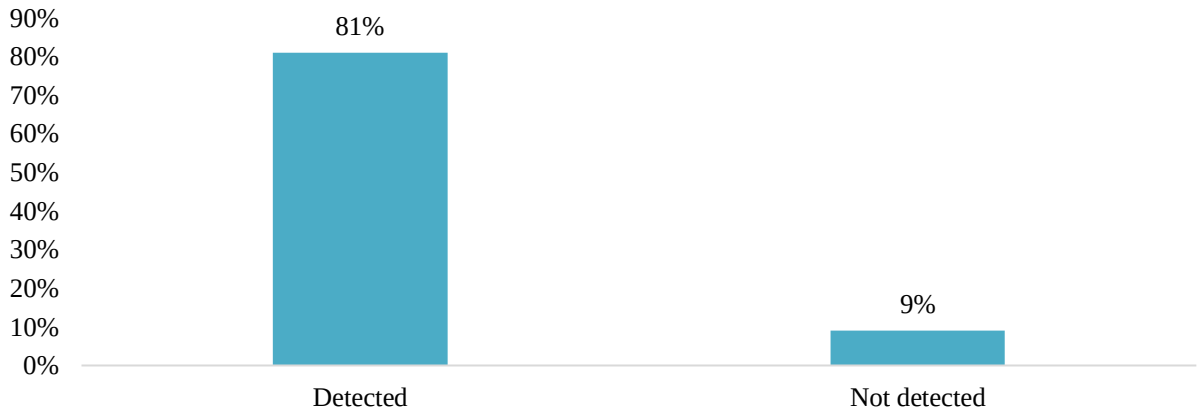

Figure 3. Results of the Survey Using the Questionnaire "Childhood Trauma Exposure"

Source: developed by the authors

The diagram is a valuable tool for visualizing the extent of this problem and its impact on society. The research results, which the diagram is based on, can stimulate broader discussions about the need to improve methods for preventing childhood trauma and supporting those affected.

Thus, after conducting empirical research, it is evident that childhood trauma has a significant impact on later life. Analyzing the data using H. Eysenck’s methodology

suggests that childhood trauma strongly affects psychological states such as anxiety, frustration, and rigidity. These states reflect the deep psychological impact of trauma, which can hinder normal development and adaptation in adulthood. However, aggression does not show a strong connection to childhood trauma, indicating the need for further research to identify other factors influencing aggressive behavior.

The research findings suggest that individuals who have experienced traumatic events in childhood exhibit certain psychological characteristics in adulthood. Specifically, they tend to show increased levels of anxiety, frustration, and rigidity. These changes may be a consequence of the impact of traumatic experiences on mental health and the psychosocial development of an individual.

The results underscore the importance of a comprehensive approach to working with individuals affected by childhood trauma, focusing on the development of skills to manage anxiety, frustration, and rigidity. This approach is critical, as it allows for the creation of individualized support and therapy programs aimed at developing adaptive strategies and enhancing psychological well-being.

Developing skills to manage anxiety, frustration, and rigidity helps those who have experienced childhood trauma to better handle stress and negative emotions, increasing their ability to adapt to life's challenges and situations. This is important for improving their quality of life and their capacity to build healthy and satisfying relationships, achieve personal and professional goals, and establish a stable psychological foundation for further development.

In studying the psychological dimensions of traumatic impact on young people's family concepts, various aspects related to familial trauma and its consequences on mental health were examined. Identifying and analyzing these influences is crucial, as family plays a key role in shaping personality, worldview, and emotional stability. Special attention was given to how traumatic events experienced in childhood and adolescence shape perceptions of family relationships and influence young people's future lives.

The survey aimed to determine the depth and scope of the impact of family trauma on young people's family concepts, as well as to identify the main psychological mechanisms underlying these processes. To achieve this, a comprehensive approach was used, involving both theoretical literature analysis and empirical research using psychological tests and surveys.

1. *Theoretical Analysis.* Based on the theoretical analysis of scientific literature, the psychological dimensions of traumatic impact on young people's family concepts were described. Childhood trauma plays a decisive role in shaping young people's views on family and personal family values. Traumatic experiences in childhood have a long-lasting impact on a child's psychological development and socialization. These experiences can lead to distorted or negative views of family relationships, which affects future behavior and attitudes toward one's family. Children who have experienced traumatic events often grow up believing that violence, neglect, or emotional indifference are normal components of family life.

Childhood trauma is a fundamental factor that determines psychological well-being and the formation of family values in young people. Childhood traumas can leave

deep scars on the psyche, affecting emotional states, behavior, and the ability to form healthy relationships in adulthood.

2. *Empirical Research*. Based on empirical research, the psychological dimensions of the traumatic impact on young people's family concepts were further described. Childhood trauma profoundly influences young people's family concepts. Timely intervention and support can help young people overcome the negative consequences and foster positive family values and healthy relationships. The research confirmed that childhood trauma has a significant impact on a person's later life. Analyzing data with H. Eysenck's methodology indicates that these traumas manifest in psychological states such as anxiety, frustration, and rigidity.

These mental states, formed under the influence of childhood trauma, deeply reflect the psychological impact of trauma on an individual. Anxiety, frustration, and rigidity become marks of past adversity that can negatively influence further development and adaptation in adult life. These mental states can become substantial obstacles to normal development and adaptation in adulthood. They complicate interactions with the world and others, causing difficulties in building healthy relationships and achieving personal goals.

3. *Based on the Correctional-Developmental Training Program "The Impact of Childhood Trauma on Future Family Formation"*. The training will be conducted in a safe and supportive environment where young people can freely share their experiences and receive support. This training will be a valuable resource for young people who have experienced trauma. It can help them understand their experiences, develop healthy coping mechanisms, and make positive choices about their future.

The training aims to empower youth affected by trauma to navigate their emotions, build resilience, and foster healthy relationship patterns that support personal growth and psychological stability (Table 2).

This training helps young people build healthy relationships. The program provides information on what healthy relationships are and how to build them. It supports young people in making the right choices for their future. This resource is aimed at assisting youth in developing healthy and positive relationships with others. It covers key aspects of healthy relationships, such as mutual respect, open communication, understanding personal boundaries, and conflict resolution skills. In this way, young people gain comprehensive knowledge and skills that contribute to their personal growth and successful integration into society.

Discussion. This study explores the profound and lasting effects of childhood trauma on youth, specifically focusing on how these traumatic experiences shape perceptions of family dynamics and relationships. The findings suggest that trauma can significantly alter a young person's internal world, impacting their mental health, self-esteem, and emotional well-being. However, trauma can also lead to the development of resilience, as individuals mobilize inner strengths to cope with their experiences. The complexities highlighted in this study underscore the necessity of understanding trauma's dual nature: as a source of psychological disruption and a potential catalyst for growth and adaptation.

Table 2. Description of the Training "The Impact of Childhood Trauma on Future Family Formation"

Lessons	Time is needed
Lesson 1. *Topic: "Acquaintance"* Goal: help participants get to know each other and create an atmosphere of cooperation and teamwork. *Exercises:* "My mood", "Names and adjectives", "My letter", "Interview", "Choose a phrase", "How similar we are! "Farewell".	1 hour 30 minutes
Lesson 2. Topic: *"Working with traumatic experience"* The goal: to create a safe space for participants to release and process their traumatic experiences. *Exercises:* "My mood", "Safe place", "Grounding technique", "9 small mandalas", "Doodles", "Map of emotions", "Farewell".	1 hour 30 minutes
Lesson 3. Topic: "*The impact of trauma on self-esteem and confidence*." The goal: to help participants build self-esteem and self-confidence, often weakened by childhood trauma, and to help build healthy relationships in the future. *Exercises:* "My mood", "Muffling self-criticism", "Mirror", "Messages from loved ones", "Choose quotes", "What do I like about you?". ,"Farewell".	1 hour 30 minutes
Lesson 4. Topic: "*Formation of skills to overcome anxiety*" Purpose: to study the impact of traumatic experiences on the emotional state of young people. *Exercises:* "My mood", "Collage. General cleaning", "Footprints of fear", "Working with dreams", "Technique for bodily sensations", "Loss and gifts of trauma", "Farewell".	1 hour 30 minutes
Lesson 5. Topic: "*Understanding and overcoming frustration*" The goal: to help participants develop effective coping strategies for anxiety and teach them how to use these skills in their daily lives. *Exercises:* "My mood", "Diagnostic work", "Compliments", "Rhythmic breathing", "Farewell".	1 hour 30 minutes
Lesson 6. Topic: "*Aggression and ways to overcome it*" The goal: to provide participants with an understanding of the nature of aggression, its possible causes and consequences, as well as to teach them to effectively manage aggressive emotions and find constructive ways to overcome conflicts. *Exercises:* "My mood", "Peace balls", "Glass", Assessment of individual aggressiveness, "Fantasy", "Farewell".	1 hour 30 minutes
Lesson No. 7. Topic: "Results of training" Purpose: to summarize the main achievements and impressions from the training. Exercises "My mood", "Hourglass", "Action!", "Communication without words", "Farewell".	1 hour 30 minutes

Source: developed by the authors

The study identified several types of childhood trauma—abandonment, rejection, deprivation, betrayal, sexual seduction, violence, and humiliation—each with unique effects on individuals. These types align with common classifications found in trauma literature, further supporting the concept that trauma is multifaceted, with distinct impacts depending on the type and context of the traumatic event. For instance, abandonment trauma can lead to attachment insecurities, while betrayal trauma may erode trust and foster feelings of alienation. Such findings echo the research by Shapiro

and Applegate (2000), which emphasizes trauma's diverse impacts on attachment and family perceptions.

Family plays a pivotal role in both the experience and resolution of trauma. The study's findings, supported by Alešenko (2022) and Burlakova and Zhitchenko (2018), highlight the importance of family as a health-preserving space. When family relationships are strong, they can mitigate trauma's negative effects and help foster resilience. Conversely, dysfunctional family environments can exacerbate trauma, leading to heightened levels of anxiety, frustration, and rigidity, as found in the results using Eysenck's Self-Assessment of Mental States. These psychological states reveal how trauma can impair emotional regulation, complicate relationship-building, and affect mental health long term.

A significant outcome of this study is the affirmation of the role that social and familial support plays in buffering against the adverse impacts of trauma. This aligns with the concept of trauma resilience, as proposed by Masten (2001), which emphasizes how supportive family relationships can aid in recovery. The correlation between family support and mental health suggests that strengthening family ties and promoting positive family interactions should be integral to trauma intervention strategies.

The intervention program described in this study - "The Impact of Childhood Trauma on Future Family Formation" - offers a structured approach to addressing trauma's impact on youth. The program's focus on self-esteem, anxiety management, frustration tolerance, and aggression control illustrates a comprehensive method for fostering resilience and promoting healthy family perceptions. This aligns with the work of Cohen et al. (2006), which supports the efficacy of trauma-focused cognitive behavioral therapy in improving family relationships and supporting trauma recovery.

Overall, the findings emphasize the critical role of family perceptions in the psychological impact of trauma on youth. By understanding how trauma influences views on family dynamics, mental health professionals and caregivers can better tailor interventions to support young individuals in rebuilding trust, strengthening family bonds, and developing adaptive coping mechanisms. Future research should further explore these dynamics, particularly within diverse cultural and socioeconomic contexts, to broaden our understanding of how family perceptions mediate the effects of trauma across different youth populations.

While trauma poses significant challenges to youth, with appropriate support and intervention, young individuals can develop resilience, strengthen family relationships, and ultimately achieve psychological growth and stability.

Conclusion. Childhood trauma can profoundly shape an individual's perception of family, impacting psychological well-being and altering family dynamics. This study highlights the dual nature of traumatic experiences: while they can disrupt the inner world and life trajectory of youth, they can also mobilize inner strength and foster resilience. Traumatic events, much like physical injuries, vary in intensity, and the process of healing is likewise variable, underscoring the need for tailored therapeutic interventions.

The research findings underscore the importance of understanding trauma's influence on family perceptions among youth, as these perceptions are often tied to broader emotional and psychological development. As explored in the literature, trauma can lead to trust issues, altered attachment patterns, and sometimes even strengthened family bonds when support is present. Through the use of targeted interventions, such as family-based therapies and support systems, there is potential to mitigate trauma's negative impact on family relationships, thereby fostering resilience and promoting mental health.

The study's methodology, which involved both quantitative and qualitative analyses, provided a comprehensive view of the psychological effects of trauma on youth. The findings emphasize the need for therapeutic programs that focus on emotional regulation, self-esteem building, and coping skills. The correctional-developmental training program developed as part of this research represents a significant step toward offering trauma-affected youth the tools they need to understand their experiences, build resilience, and foster healthy family relationships.

Overall, this research sheds light on the complex interplay between trauma and family perceptions, contributing valuable insights for caregivers, educators, and mental health professionals working with youth. By promoting targeted interventions, this study aims to support the development of positive family relationships and enhance the overall well-being of trauma-affected individuals. Future research should continue to explore cultural and contextual factors that shape trauma's impact on family perceptions, further informing strategies to support youth recovery and resilience.

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CHAPTER 4
NAVIGATING MODERN CHALLENGES IN JOURNALISM AND SOCIAL MEDIA

THE POLITICS OF FIDESZ-KDNP OF HUNGARY UNDER V. ORBÁN IN WESTERN MEDIA, 2010-2024

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Abstract. *This article offers a comprehensive analysis of Western media coverage of the Hungarian government's political course under Viktor Orban and the FIDESZ-KDNP coalition from 2010 to 2024. The study encompasses a wide range of aspects of Hungary's domestic and foreign policy, tracing the evolution of "Orbanism" perception in international media discourse. The author examines in detail the key themes that dominated Western media regarding Hungary, namely: The transformation of the country's democratic system and discussions around the concept of "illiberal democracy". Systematic conflicts between Hungary and the European Union, especially on issues of rule of law and democratic values. Hungary's strict migration policy and its impact on European policy in this area. Economic reforms known as "Orbanomics" and their controversial perception in the international arena. Changes in Hungary's media landscape and discussions about press freedom. Hungary's foreign policy course, including its relations with Russia, China, the USA, and neighboring countries. Special attention is paid to the impact of the Hungarian governance model on regional politics in Central and Eastern Europe, as well as its perception by right-wing and conservative movements in Europe and the USA. The article also examines the dynamics of Hungary's relations with the EU and NATO, particularly in the context of Russian aggression against Ukraine and Hungary's position on this conflict. The research is based on a wide range of Western media sources, including leading newspapers, magazines, television channels, and online publications. The author traces changes in the tone and focus of coverage of Hungarian politics during the specified period, identifying key trends and turning points in the international perception of Hungary. The article also examines Western media's reaction to Hungary's presidency of the Council of the European Union. The author summarizes the main trends in Western media coverage of Hungarian politics and assesses their impact on Hungary's international reputation and its relations with key partners.*

Keywords*: Hungary, Western media, FIDESZ-KDNP coalition, "Orbanism", Ukraine.*

JEL Classification: D 72; L 82

Formulas: 0; fig.: 0; table: 0; bibl.: 21

Introduction. Since 2010, the political landscape of Hungary has undergone significant changes under the leadership of Viktor Orbán and the FIDESZ-KDNP coalition. These transformations have drawn close attention from Western media, eliciting a wide range of reactions—from criticism to intrigue. This article explores how Western media have covered and interpreted the Hungarian government's policies from 2010 to 2024.

The analysis focuses on key aspects of Hungary's domestic and foreign policy, including changes in the democratic system, economic reforms, migration policy, and relations with the European Union. Special attention is given to the evolution of Viktor Orbán's image in the international media space and the impact of his policies on regional and European politics.

This study not only reveals the dynamics of Hungary's perception on the international stage but also illustrates broader trends in the coverage of political processes in Central and Eastern Europe by Western media.

Literature Review. The politics of the FIDESZ-KDNP coalition under Viktor Orbán has been a subject of considerable analysis and debate in Western media, particularly from 2010 to 2024. This period has seen Orbán's government challenge liberal democratic norms and face scrutiny from both domestic and international observers. A significant body of research, particularly from Ukrainian scholars and journalists, has delved into this issue, examining how Orbán's policies and political maneuvers have been received and represented abroad.

Ukrainian researchers like Ziabkin (2024), Zagrebelnyi (2024), and Erman (2022) have investigated the media portrayal of Orbán's administration, shedding light on the broader geopolitical implications of Hungary's political shift. Their work is complemented by Krupka (2024), Ozturk (2024), and Sydorenko (2024), who explore how Hungarian policies under Orbán have impacted relationships within the European Union, as well as Hungary's connections with other Eastern European countries.

Hungarian and Western academics and journalists have further enriched this discourse. Dtsstwffyi (2024) and László (2024) offer an insider perspective on the FIDESZ-KDNP coalition's policies, while Tharoor (2022; 2024) and Nielsen (2024) provide a Western viewpoint on how Orbán's government is perceived globally. Moreover, Demény (2024), Starcevic (2024), and Ocvirk (2024) contribute nuanced assessments of Orbán's strategies, illustrating the divergence between Hungarian domestic support and Western criticism. Petit (2023) and other scholars critically evaluate the narratives that Western media has constructed around Hungary's political trajectory, highlighting a complex interplay between media representation and political reality.

This body of work collectively offers a multifaceted understanding of the FIDESZ-KDNP's influence under Orbán, addressing both the domestic context and international reactions. The contributions of these scholars and journalists underscore the polarized nature of the discourse surrounding Hungary, as well as the varied lenses through which Orbán's Hungary is viewed across different regions.

Aims. The purpose of the article is to carry out a comprehensive analysis of the results of coverage by the Western mass media of the political course of the Hungarian

government under the leadership of Viktor Orbán and the FIDESZ-KDNP coalition from 2010 to 2024.

Methodology. The research is based on the analysis of publications in leading Western media from 2010 to 2024. Content analysis and discourse analysis methods were used to study the coverage of key aspects of Orbán's government policies. Sources include newspapers, magazines, and online publications. The analysis covers Hungary's domestic and foreign policy, economic reforms, migration policy, and media reforms. A chronological and thematic approach was applied to track changes in the perception and coverage of Hungary's policies. The results were validated by comparison with academic research and analytical reports from international organizations.

Results. At the end of the 1980s, as a result of the Velvet Revolution, Hungary, as a parliamentary republic, embarked on the path of building a democratic society based on a multi-party system. Until 2010, coalitions changed as a result of elections to the National Assembly, with conservatives, socialists, and liberals coming to power, but the commitment to democracy and pan-European values remained constant. All this was nullified when the FIDESZ-KDNP coalition, led by V. Orbán, came to power in 2010, leading to the rollback of democracy and the slide toward autocracy. This ruling coalition won parliamentary elections four times and secured a constitutional majority in the National Assembly [15, p.86].

Today, the country is characterized as a state with "illiberal democracy," where right-conservative ideology prevails. The multi-party system, which replaced the former communist one-party system, has evolved into a system where one party holds a constitutional majority in parliament.

This dominant political force has held power for over a decade, leading to a significant concentration of power and raising concerns about the state of democratic institutions in the country. Such developments call into question Hungary's initial democratic aspirations and provoke discussions about the direction of its political development.

This situation enables Viktor Orbán's government to pass any laws that support its course aimed at establishing an illiberal democracy in the country. Despite sharp criticism from Brussels, the policies of the Hungarian government coalition, led by Orbán, continue to pursue a line of strengthening state control over democratic institutions and reforming the public sector toward centralization, a return to conservative traditions of the Hungarian state, a rollback of democratic principles of governance, and the reinforcement of authoritarian tendencies.

This policy of the ruling coalition of Hungary and its leader, Viktor Orbán, is closely monitored by Western media, with the prime minister himself being the focal point of news and reports on Hungary. Orbán's personality and policies have consistently dominated foreign publications about Hungary since 2010. Even in 2024, nearly a decade and a half later, he continues to play a decisive role in articles analyzing news related to Hungary.

The most common portrayal of Viktor Orbán in foreign media is as an authoritarian dictator. In May 2015, "The New York Times" published a joint article

by economics professor Sergei Guriev and political science professor Daniel Treisman titled "New Dictators Rule with Velvet Fists," which discusses so-called "sophisticated" dictatorships, with Viktor Orbán also mentioned among the political leaders analyzed[16].

The theoretical starting point of the authors is that, unlike traditional dictatorships that operate with overt violence, there are now so-called "new" dictatorships that speak the language of global media, understand the laws of mutual economic dependence and the essence of information technologies, rarely resort to violence, concentrate power in one hand, dismantle the system of checks and balances, and gradually eliminate the opposition.

These politicians threaten to change the world order, control media owners through advertising revenue, hinder access to independent online content, use hackers, and even hire Western consultants for successful lobbying and communication. Viktor Orbán is included in the cohort of "sophisticated" dictators who deceive their voters with propaganda, censorship, and half-truths.

In May 2018, in issue No. 3 of the American magazine "Time," Viktor Orbán appeared on the cover alongside Russian President Putin, Turkish President Recep Tayyip Erdoğan, and Philippine President Rodrigo Duterte. The author of the article is Ian Bremmer, an American political analyst, editor, and head of the foreign policy department of "Time," and president of the Eurasia Group, who teaches applied geopolitics at Columbia University[17].

Bremmer explored why "strongmen," often referred to as dictators, and charismatic leaders like those mentioned above have once again come to the forefront of the political stage. According to the author, a common denominator for these politicians is that they offer their people "security" from external and internal threats. In Bremmer's article, there is also a narrative about "awakened nations," suggesting that, unlike the populations of Western Europe, the citizens of these countries have become aware of their vulnerability and therefore place more trust in decisive, capable politicians with a stable value system.

Regarding Viktor Orbán, the author notes that after another electoral victory in 2018, following the migration crisis, he is building an illiberal democracy where free elections exist, but civil liberties are restricted. Bremmer believes that the Hungarian prime minister deliberately uses fear as a strategy to intimidate the civilian population and turn them against migrants.

When Fidesz won again with a constitutional majority in the National Assembly elections in April 2018, foreign media journalists focused on Viktor Orbán's new electoral success and its consequences. Jennifer Rankin, Brussels correspondent for The Guardian, who has written several articles on Hungarian topics, described the 2018 elections in Hungary as "the re-election of anti-migration Viktor Orbán poses a major challenge for the EU." She suggested that only a few people in Brussels were celebrating the resounding success of Hungary's prime minister in the elections, which poses a serious challenge to the European Union since Viktor Orbán has distanced himself from the club of liberal values while continuing to receive EU funds.

Rankin's analysis paints a picture of Hungary where the system of checks and balances has been practically dismantled, judicial independence has been softened, and independent media have been targeted. The Hungary depicted in her article is on the brink of democracy, where xenophobic rhetoric against refugees, Brussels, and George Soros is also prevalent. Viktor Orbán is increasingly portrayed as an autocratic politician who is performing a "peacock dance" with Brussels, but in 2018, there was no European leader on the horizon who was taking steps to hold Hungary's prime minister accountable. The then-president of the European Commission, Jean-Claude Juncker, also showed no willingness to confront Viktor Orbán, which the article's author attributes to the fact that both were members of the European People's Party[18].

In November 2020, Vivian Walt, a Paris correspondent for the American magazine Time, published a detailed report on the domestic political situation in Hungary. On this occasion, she personally visited Budapest Mayor Gergely Karácsony, who had just taken control of the capital from Fidesz-supported István Tarlós a year earlier, an event that many foreign media interpreted as the breaking of the myth of Viktor Orbán's invincibility with the opposition's victory in Budapest in 2019. Walt's article emphasized that Hungary is moving toward an authoritarian system, and in the system built since 2010, which the Hungarian prime minister only calls an "illiberal democracy," judges, civil servants, and even the appointment of directors of individual institutions such as theaters depend on political loyalty. The media has become a mouthpiece for government propaganda, and NGOs have had their financial resources seized.

The government's measures related to the coronavirus pandemic were also examined in the Time article, where the government's decree introduced in March 2020 was interpreted as granting the prime minister absolute power. Walt's reports also noted that those who criticized the government were arrested, the few remaining independent news sites were silenced, and even the University of Theater and Film Arts was privatized. All this led to the Washington-based human rights organization Freedom House taking the position in May 2020 that Hungary could no longer be considered a fully democratic country.

In January 2023, Viktor Orbán held a press conference with foreign right-conservative journalists at the Carmelite Monastery in Budapest, who had arrived for the Matthias Corvinus College media conference. Rod Dreher, the editor-in-chief of "The American Conservative," who lives in Budapest and is affiliated with the conservative think tank "Danube Institute," which is supported by the Hungarian state, published an extremely detailed report on this meeting.

Dreher noted that the Hungarian prime minister is not at all the figure portrayed by Western media. However, H. David Baer sharply criticized Dreher's remarks in "The Bulwark," referring to him as a "blogger from Louisiana," accusing him of ignorance about Hungary and violating basic journalistic principles by becoming the news rather than reporting it.

Rod Dreher spoke of Viktor Orbán as a natural politician, whom he ranked among "one of the most significant world leaders of our time." H. David Baer also criticized

Dreher for his admiration of the Hungarian prime minister's political genius in his blog on "The American Conservative," failing to realize that his most enthusiastic comments are considered scandalous in the rest of Europe.

Baer described Dreher's discussion of Orbán's statements on Hungary's EU membership and the Russia-Ukraine war as careless and even explosive, as it angered Ukrainians so much that they summoned the Hungarian ambassador in Kyiv. Moreover, the opinions expressed in his blog caused a great stir in the Hungarian press, leading Rod Dreher to dismiss domestic opposition figures as "jackals."

Baer called Dreher a "lapdog" and summarized his image of Hungary as a "Christian-conservative Disneyland where one must always be vigilant, trust no one, even friends, practice self-censorship as a journalist, and consider nothing certain"[19].

On May 17, 2022, "The Washington Post" published a three-part series of articles about Viktor Orbán, which painted a vision of the "Orbanization" of the United States. The author is Ishaan Tharoor, a foreign policy journalist for the American publication and a contributor to the "Today's WorldView" section and newsletter, which focuses on global politics[20].

The first part of his analysis was published on May 17 of the same year, where he discussed how American conservatives are following Hungary's lead and how the influence of the Hungarian prime minister's policies has long extended beyond his own country. Tharoor began the first part of the series by stating that "in the summer of 2018, Hungarian Prime Minister Viktor Orbán declared war on an entire generation" and foresaw the advance of right-wing nationalist parties in the upcoming European Parliament elections, saying, "We may be witnessing a historic moment where we say goodbye not only to liberal democracy but also to the elite of 1968."

By this, he referred to the socio-cultural consequences of the Paris student uprising that took place that year, such as the promotion of feminism, atheism, and leftist cosmopolitanism, which rejects patriotic traditions. Orbán fights against these phenomena, linking their origins to the 1968 generation, which is why he predicted that the 1990s generation would replace them, as he put it, "now it is the turn of a generation of Christian convictions and dedicated anti-communists in European politics."

According to Ishaan Tharoor, since his re-election in 2010, Orbán has turned Hungary into a Petri dish for experiments with illiberal democracy, and by 2022, it was time to export the model he had developed. However, Viktor Orbán's influence and his political vision of a new Christian democracy are by no means confined to Europe, as they serve as a significant source of inspiration for American conservatives.

Stephen K. Bannon, former advisor to President Donald Trump, described the patriotic political program of the Hungarian prime minister as "Trump before Trump." It is no surprise that some American conservative intellectuals have traveled to Budapest with scholarships or taken creative sabbaticals there, and the Conservative Political Action Conference (CPAC) chose the Hungarian capital as its venue.

Tucker Carlson, one of the most influential conservative media personalities and political commentators in the United States, also praised the Hungarian prime minister on his former Fox News program and conducted two interviews with Viktor Orbán in Budapest. As early as 2019, he stated that Hungarian political leaders genuinely care

about the welfare of their people, at least in his opinion, as evidenced by a program that directs tax revenues to increase the native population rather than prioritizing migration and supporting immigrants.

Tucker Carlson continued to popularize the so-called "Great Replacement Theory," which posits that the arrival of migrants is part of a premeditated political project aimed at displacing the native population. This theory has become so deeply ingrained in mainstream right-wing thinking that, according to a recent public opinion poll, three out of ten Americans believe that immigration threatens their political and cultural influence. No Western political leader speaks as loudly about demographic threats as Viktor Orbán, even though the proportion of Muslim and Arab populations in Hungary remains negligible. Despite this, during the 2015 refugee crisis, he alarmed the Hungarian population with the prospect of Syrian asylum seekers being resettled in Hungary, framing this possibility as an existential threat, and subsequently increased state support for domestic population growth, undoubtedly strengthening his position among Europe's far-right.

To support this, Ishaan Tharoor cited another statement by Viktor Orbán at the III Budapest Demographic Summit in 2019. There, the prime minister said that "some European political forces, for ideological or other reasons, want to replace the population on the continent," which, according to the author, was directed particularly at George Soros, although it is ironic that the American businessman of Hungarian origin helped the young liberal group led by Viktor Orbán in the 1980s, which later became the Fidesz party.

After the regime change, there was a political and ideological shift in the current prime minister, who targeted NGOs and institutions that threatened his rule. An example of this is the fate of the Central European University (CEU), associated with Soros's name, which relocated its headquarters from the Hungarian capital to Vienna following the crackdown in 2017. The first part of the series also mentioned the dismantling of the independent press in Hungary and the transfer of media ownership to Orbán's allies, as well as the surveillance of investigative journalists using spyware, specifically the Pegasus scandal. In his analysis, the Washington Post journalist concluded that American conservatives see a glimmer of hope in Hungary's example under Viktor Orbán, which they view as a victory in the cultural war and a model for action. As a result, J.D. Vance, a Republican senator from Ohio, hinted in an interview with "Vanity Fair" that Donald Trump's re-election in 2024 could accelerate the conservative takeover of local institutions, including universities, which he believes "need to be taken from the left and turned against them," because a political program is needed to eliminate "woke" ideology.

Ishaan Tharoor also saw evidence of following Orbán's course in the fact that, according to some analysts, a political trend infused with the venom of the Hungarian prime minister's war against the "elite of 1968" is increasingly spreading among American conservatives. Kim Lane Scheppele, a sociology professor at Princeton University and an expert on Hungarian politics, described Viktor Orbán's rhetoric, which generates sympathy among the right, as worrisome, as it conceals a dictator who holds all the power.

The second part of the series illustrated the "Orbanization" of American conservatives through the politics of Florida, specifically focusing on actions against the rights of lesbians, gays, bisexuals, and transgender people, grouped under the acronym LGBTQ. The third article, which concluded the analysis, discussed the erosion of democracy.

Western media paid considerable attention to Hungary's upcoming presidency of the European Union. The online publication "Central European Times," in an article titled "Hungary's EU Presidency: Steering the European Agenda in Turbulent Times," writes about Budapest assuming the presidency of the Council of the European Union on July 1, 2024, under the slogan "Make Europe Great Again." Hungarian Prime Minister Viktor Orbán is widely regarded as the bloc's closest leader to Russia and its biggest dissident, which means that Hungary's presidency could lead to conflicts on issues including Ukraine's potential EU accession and climate policy.

The article further analyzes the following topics: Hungary focuses on the economy, Orbán outlines Hungary's position on Ukraine, Orbán criticizes Weber, EPP, and migration, and Orbán emphasizes the importance of the German economy to Hungary. These headlines reflect various aspects of Viktor Orbán's and Hungary's policies regarding the EU, Ukraine, migration, and economic relations with Germany, demonstrating the wide range of issues the Hungarian government is dealing with in the context of European politics[21].

In the online publication "Wilson Center," Masha Ocvirk published an article titled "What Awaits Hungary's Presidency of the EU Council?" In it, the author discusses the fact that in recent years, relations between the EU and the Hungarian government have been far from simple. For several years, the country has been under scrutiny due to concerns about the deterioration of the rule of law and has often used its veto power to block progress on key legislation, such as military aid to Ukraine. Therefore, trust in Hungary's leadership of the EU has become a subject of controversy. In June of last year, the European Parliament even passed a resolution questioning its ability to serve as an honest broker and urging the European Council to take appropriate action.

Although Hungarian Prime Minister Orbán could stir up trouble with his rhetoric, the disruptive potential of Hungary's presidency should be approached with caution.

Shortly before the official start of Hungary's presidency, on June 25, 2022, EU member states agreed to officially begin membership negotiations with Ukraine and Moldova. This was considered a tactical move by the outgoing Belgian presidency to provide another necessary political signal for the future of Ukraine and Moldova in the EU. In the past, Hungary had hindered Ukraine's accession progress, citing issues of corruption and the protection of the Hungarian minority in Ukraine. Hungarian Minister for European Affairs János Bóka stated that the presidency does not plan to open or close any negotiating clusters for the respective two countries. However, this official start is still significant, as both sides can begin the "screening process"—an assessment of the candidate countries' alignment with EU legislation and what is needed to advance in the membership process.

The next six months will be marked more by broad political discussions about the new EU institutional leadership and priorities for the next five years than by progress on specific legislative files. Therefore, Hungary's role in setting the agenda will not significantly increase its ability to hinder progress—no more than it already has by using its veto power. However, attention should be paid to the political discourse and whether Hungary will use this focus to undermine EU unity—especially on foreign policy issues—and to strengthen far-right and nationalist voices that have gained ground in the European Parliament elections in June. Nevertheless, making progress on its priorities, such as defense and enlargement, could provide Hungary with an opportunity to improve its strained relations with Brussels. Will Hungary take advantage of its presidency and, as its Minister for European Affairs stated, become "an honest broker, loyally working with all member states and institutions"?[12].

On the website of The European Policy Centre, Perle Petit published a study titled "Will Hungary Achieve Another 'First in the EU' by Being Stripped of the EU Presidency?" This headline poses an ironic question about the possibility of Hungary becoming the first country in EU history to be stripped of its right to hold the rotating presidency of the Council of the European Union. The phrase "another 'first in the EU'" hints at Hungary's previous negative "achievements" in its relations with the EU.

Hungary is set to take over the EU's rotating presidency in July 2024, right after the European elections, but its negative track record regarding respect for EU rights and values raises doubts about the appropriateness of Hungary's presidency altogether. This issue gained relevance in recent weeks following the European Parliament resolution of May 24, which questioned "how Hungary can credibly fulfill" the responsibilities of the presidency. The resolution, sponsored by a majority of political parties, was passed with 442 votes in favor and 144 against.

This comes after several EU measures aimed at the country to curb its further slide into autocracy - from the Parliament's initiation of Article 7 procedures to the Commission's blocking of EU funding due to rule of law regulations. So far, little of these efforts have troubled the Hungarian government.

The Orbán regime thrives by using its controlled media empire to portray any EU actions as depriving the Hungarian people of their right to self-determination of Hungarian values. Unfortunately, the EU currently has little it can do about this, as state disinformation - prevalent in Hungary - is a complex moving target that is difficult to address at the national level [13].

Discussion. The political developments in Hungary under Viktor Orbán and the FIDESZ-KDNP coalition have been closely scrutinized by Western media from 2010 to 2024, often leading to polarized perspectives. Orbán’s approach has been widely framed as a move away from liberal democratic norms towards a form of governance that he himself describes as “illiberal democracy.” This term has come to symbolize the shift in Hungary's political landscape, as Orbán’s policies have increasingly emphasized national sovereignty, conservative values, and centralization of power.

The Western media's portrayal of Orbán has predominantly been one of concern, focusing on Hungary's perceived slide towards authoritarianism. Articles have underscored Orbán’s consolidation of power through legislative changes that favor the

ruling party, raise barriers to political opposition, and erode judicial independence. This, coupled with a controlled media landscape, has led many international observers to view Hungary as a nation where democracy is under strain. Such coverage is exemplified by Walt's (2020) and Rankin's (2024) analyses, which emphasize the dismantling of democratic safeguards and the increasing role of state-controlled narratives in shaping public opinion.

Yet, while Western media largely critiques Orbán's policies, some articles also highlight his influence on global conservatism and his perceived role as a model for right-wing movements beyond Hungary. Tharoor's (2022; 2024) exploration of Orbán's appeal to American conservatives underscores his international impact, positioning him as an emblem of a new wave of conservative leadership that appeals to those disillusioned with liberal values. This dimension reveals a duality in Orbán's media coverage: he is not only seen as a domestic authoritarian but also as a figure whose policies resonate with certain political groups globally.

Hungary's evolving relationship with the European Union has been another focal point in media discussions. Orbán's confrontations with Brussels over issues like migration and rule-of-law violations have been recurrent themes. Reports, such as those by Petit (2023) and Ocvirk (2024), detail Hungary's challenges to EU unity, particularly as it assumes the EU Council Presidency in 2024. Western media often portrays this as a critical juncture, questioning whether Hungary can lead the EU while simultaneously being one of its most significant dissenters.

Overall, Western media coverage from 2010 to 2024 reflects a complex and often adversarial stance towards Hungary's political developments. While critiques of democratic backsliding are prevalent, Orbán's adeptness at influencing conservative narratives and his strategic defiance of EU norms are acknowledged. The portrayal of Orbán in Western media underscores both the apprehension surrounding Hungary's political trajectory and the broader implications of its leadership style on regional and global politics. This dichotomy serves as a testament to the contentious nature of Orbán's Hungary and the divisive role it plays within both the EU and the broader political landscape.

Conclusion. From 2010 to 2024, the policies of the Hungarian government under the leadership of Viktor Orbán and the FIDESZ-KDNP coalition have attracted significant attention from Western media, often eliciting criticism and concern. Overall, Western media have portrayed Orbán's policies as a challenge to the traditional liberal-democratic values of the EU, while also acknowledging his political acumen and influence on European politics. This ambivalent assessment reflects the complexity and contentious nature of Hungarian politics during the period from 2010 to 2024.

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