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Legal Regulation of Intellectual Property in the Field of Artificial Intelligence

Anzhelika Krusian
Scientific Secretary of the Institute of State and Law named after V. M. Koretsky National Academy of Sciences of Ukraine, Kyiv, Ukraine; 370235@ukr.net

Oleksandra Tarasenko
Department of International Law, Faculty of Political Science, Istanbul University, Istanbul, Turkey

Yurii Prykhodko
Department of Forensic Support and Forensic Examinations, Educational and Scientific Forensic Institute, National Academy of Internal Affairs, Kyiv, Ukraine

Ivan Martyniuk
Department of Intellectual Property Law and Patent Justice, National University "Odesa Law Academy", Odesa, Ukraine

Nataliia Lagovska
Department of Civil Law and Procedure, Educational and Research Institute of Law, State Tax University, Irpin, Ukraine

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Abstract

This study aimed to identify differences between contemporary approaches to protecting intellectual outputs created or used with artificial intelligence and to establish criteria connecting rights, obligations, and liability to human contributions at successive stages of the technological process. Conducted in August 2026, the study examined a purposive, non-random sample of 45 legislative, judicial, administrative, and official analytical documents from the World Intellectual Property Organization, the European Union, the United States, the United Kingdom, and Ukraine. The documentary cutoff was 27 August 2026. Documents were examined against 13 criteria encompassing input authorization, text and data mining, rights reservations, training transparency, authorship, creative control, output protection, special protection regimes, inventorship, human inventive contribution, liability, trade secrets, and remedies. European Union materials constituted 28.9% of the sample, followed by United States materials at 24.4%, United Kingdom materials at 20.0%, Ukrainian materials at 15.6%, and international institutional materials at 11.1%. The European Union instruments connect distinct mining exceptions with rights reservations and general-purpose model transparency; the United States materials emphasize fair use and case-specific analysis. United Kingdom legislation retains a computer-generated works provision, while Ukrainian legislation establishes separate protection for qualifying non-original computer-generated objects. Human contributions remain central to ordinary authorship and inventorship, although these special output regimes prevent treating that convergence as absolute. No common numerical threshold for sufficient human contribution emerged from the selected documents. The findings support a staged analysis distinguishing inputs, model operations, and outputs, with separate assessments of authorization, attribution, and responsibility. These conclusions concern the selected documentary corpus rather than an exhaustive account of every applicable rule or jurisdiction.

Keywords: generative artificial intelligence, authorship, inventorship, training data, text and data mining, intellectual property protection.

1. INTRODUCTION

The rapid dissemination of tools and platforms for developing artificial intelligence (AI) systems is reshaping established practices for producing, using, and legally protecting the results of intellectual activity. Algorithmic systems increasingly participate not only in technical operations but also in generating texts, images, software code, technical solutions, and other outputs potentially relevant to copyright and patent law. Their integration into creative and inventive workflows creates difficult questions about the relationship between technical generation and legally attributable human conduct. Traditional concepts, including authorship, inventorship, originality, and ownership of exclusive rights, consequently require careful application to particular processes and protected subject matter. A system's capacity to produce an output does not, by itself, determine whether that output qualifies for protection or identify the person entitled to exercise any resulting rights.

One particularly controversial area concerns the legal status of outputs generated with substantial involvement from generative systems. Gaffar and Albarashdi [1] examine the relationship between originality, ownership, and the apparent technological autonomy of contemporary models. Fritz [2], addressing AI-assisted works, emphasizes the significance of a person's actual creative contribution when identifying authorship. These approaches nevertheless leave difficult questions about the extent of human control needed for copyright protection, especially where the final expressive form depends substantially on model-generated material. The relevant distinction concerns attributable human expression within a particular work, rather than a general classification of the technology as either autonomous or merely assistive [1, 2].

A further group of problems concerns the use of protected works in model training. Buick [3] identifies transparency concerning training-data provenance as an important element in balancing developers' interests with those of copyright holders. Fernandes [4] examines whether intellectual property law should permit machines to learn from protected material, considering both technological development and the limits of exclusive rights. The legal basis for using particular datasets, the scope of applicable exceptions, and possible mechanisms for remunerating rightsholders remain contested. These questions require attention to the acts performed during collection, copying, preprocessing, and training, rather than an assumption that publicly accessible material is necessarily free to reproduce for any purpose [3, 4].

Comparable uncertainty arises in patent law. Banerjee [5] examines the relationship between traditional human inventorship and commercial incentives for AI-assisted innovation. The central legal questions concern identifying the natural person who made the relevant inventive contribution and distinguishing inventorship from ownership or entitlement to apply for a patent. The possibility that an algorithm contributes to generating a technical solution does not establish that the algorithm possesses legal personality or can hold patent rights. Accordingly, an appropriate comparative framework must separate the factual role of a system, the attribution of inventive activity to an individual, and the subsequent allocation of economic rights under the applicable national law [5].

The research gap therefore concerns the limited integration of copyright, patent law, and training-data governance within a single comparative analytical framework. Existing scholarship provides substantial analysis of individual problems, but the relationships among authorization at the input stage, protection of model components, attribution of outputs, and responsibility for infringement remain difficult to evaluate together. This study seeks to identify conceptually sound directions for adapting intellectual property mechanisms to results created or used with AI systems. It examines how these mechanisms connect legally significant human decisions to particular protected objects without assuming that every technical operation creates an exclusive right.

To achieve this objective, the study addresses four related tasks: identifying legally significant criteria for human contributions to AI-generated and AI-assisted outputs; examining the legal grounds for using protected works in model training; comparing approaches to authorship and inventorship in processes involving AI; and identifying gaps in existing protection mechanisms together with possible directions for their adaptation. These tasks are approached through a structured comparison of official documents and relevant scholarship. The analysis distinguishes descriptions of current legal requirements from recommendations for future policy and avoids treating non-binding institutional materials as equivalent to legislation or judicial authority.

2. LITERATURE REVIEW

The academic debate on intellectual property and AI extends beyond whether a machine can be recognized as an author or inventor. It encompasses at least three legally distinct processes: using protected material as input, developing and operating a trained model, and producing or exploiting an output. This distinction informs the analyses of Picht and Thouvenin [6], Guadamuz [7], and Quintais [8]. Nevertheless, copyright, patent law, and training-data governance frequently remain separate strands of scholarship, although they interact within a single technological workflow. Evaluating an output in isolation may therefore overlook questions about input authorization, the legal status of model components, and the evidence of human control. This study uses the staged distinction as an analytical organizing principle rather than treating it as an independently established legal test [6–8].

Originality and attributable human expression remain central questions in copyright scholarship. Mazzi [9] examines

the legal significance of prompts and other forms of intervention in generation. A prompt, however, cannot automatically establish authorship of every expressive feature that a system produces. Iterative selection, rejection, refinement, arrangement, and editing may provide stronger evidence of creative decision-making, but their legal significance depends on the resulting human-authored expression rather than the number of operations performed. Kulchii [10] examines tensions between established copyright concepts and generative tools, while Thambaiya et al. [11] investigate related challenges in Australia. The relevant inquiry is therefore whether identifiable creative decisions can be evidenced and connected to protected expression in the final result. Neither the technical label assigned to a workflow nor the effort invested in repeated generation necessarily resolves that inquiry [9–11].

Another strand of discussion concerns the legal status of the trained model itself. Tarasiuk [12] considers copyright and sui generis protection for trained neural networks, raising the question of whether existing regimes adequately protect a complex technological product. An excessively broad new exclusive right could, however, restrict access to functional characteristics or techniques that existing intellectual property law does not protect in the same way. It is therefore analytically useful to distinguish software code, architecture, parameters, training datasets, and outputs. Their eligibility for protection depends on different legal requirements, and the protection of one component does not automatically extend to every other component or to the model's functionality as a whole [6, 12].

Model training remains a particularly contentious stage. Guadamuz [7] distinguishes possible infringement involving inputs from infringement involving outputs. That distinction is more precise than assuming that using a protected work in training necessarily makes every subsequent output an infringing derivative work. Manteghi [13] examines text and data mining (TDM) exceptions and synthetic training data as possible ways to reduce copyright conflicts. Synthetic data nevertheless requires its own provenance assessment: generating substitute data does not automatically resolve questions about the material used in an earlier training process. Senftleben [14] critically examines TDM, generative AI, and the copyright three-step test. Together, these contributions support identifying the particular exclusive right and legally relevant act before assessing an exception. They also show why legal authorization and economic distribution remain separate questions: a permitted operation does not necessarily settle broader policy concerns about the allocation of benefits from large-scale use of professional content [7, 13, 14].

The opacity of training datasets adds a further layer of difficulty. Pasetti et al. [15] examine technical, legal, and ethical challenges in training-data governance, including the limitations of relying on fair use, TDM exceptions, or hybrid arrangements alone. Quintais [8] analyzes the relationship between the AI Act and the European Union (EU) copyright framework, connecting copyright compliance with rights reservations and transparency obligations. Transparency nevertheless does not establish authorization: information about a dataset cannot itself supply a missing legal basis for reproducing protected material. Conversely, indiscriminate publication of detailed datasets may conflict with legitimate confidentiality and trade-secret interests. A proportionate approach should therefore distinguish public information, records retained for compliance, and evidence disclosed through appropriate enforcement procedures. These categories serve different functions and should not be collapsed into an unconditional obligation to publish an entire training corpus [8, 15].

Liability for generated outputs constitutes a separate issue. Rosati [16] examines attribution of infringement involving AI-generated material under international, EU, and United Kingdom copyright law. Luk [17] compares legal responses to technological change, including safe-harbour approaches for online intermediaries. That comparison is useful, but intermediary rules cannot simply be transferred to all generative services. A platform that hosts third-party content and a service that generates material may perform different legally relevant acts, and particular services may combine several functions. Assessment should therefore consider the applicable liability doctrine, the actor's conduct and knowledge, the degree of control, and opportunities to prevent infringement. These factors are proposed as analytical considerations; they do not constitute a universally adopted statutory test for allocating responsibility among developers, providers, and users [16, 17].

The patent-law debate is similarly revealing. Lada [18] challenges the concept of an autonomous inventing machine and argues that claims about autonomous invention require technological scrutiny before their legal consequences are assessed. Raghavender and Singh [19] examine whether an AI system could be recognized as an inventor in India, illustrating the tension between technological developments and existing statutory concepts. Levy [20] proposes augmented inventorship as a way of retaining human inventorship while examining the direction and traceability of human intellectual contributions. These approaches redirect attention from abstract machine personality to evidence concerning who formulated the problem, developed the relevant conception, directed the process, and connected the resulting technical solution to the claimed invention. Such evidence must still be evaluated under the applicable law; performing an operational task or recognizing a useful output does not automatically establish inventorship [18–20].

This review identifies a comparative research gap rather than an absence of relevant scholarship. Existing studies explain individual copyright and patent problems in considerable depth, but provide less integrated treatment of authorization, attribution, protection, and liability across input, model, and output stages. A useful framework examines four verifiable considerations: the provenance of material used; the nature of the legally significant operation; the character of human

creative or inventive decisions; and the evidence connecting a particular actor's conduct to a protected result or alleged infringement. These considerations organize the present comparison without presuming that technological autonomy alone determines rights or responsibilities.

3. MATERIALS AND METHODS

The study was conducted in August 2026 as a comparative normative and doctrinal legal analysis supported by structured examination of official documents. The documentary cutoff was 27 August 2026. The primary corpus comprised a purposive, non-random sample of 45 documents ($n = 45$), grouped into five analytical profiles: the World Intellectual Property Organization (WIPO), the European Union, the United States, the United Kingdom, and Ukraine. These profiles are institutionally different: WIPO supplies an international policy perspective, the European Union provides a supranational framework, and the remaining profiles concern national legal systems. They are compared by function rather than treated as equivalent legislative authorities. Each unit was a distinct legislative instrument, policy document, guidance document, administrative decision, judgment, official report, or record of administrative practice. Appendix A, specifically Table A1, identifies the complete documentary corpus, D01–D45, and provides a bibliographic citation for every unit.

Documents were selected for their direct legal relevance to the study's questions. They addressed the legal status of AI-generated or AI-assisted results; the use of protected material in training or TDM; human authorship, originality, or inventorship; transparency, licensing, liability, or enforcement; or relevant judicial and administrative practice. Private legal opinions, commercial blogs, and general news reports were excluded from the primary corpus where they lacked independent legal or evidentiary significance. Unofficial translations, duplicate documents, and general materials on AI ethics or data protection were also excluded where they did not directly concern intellectual property. Scholarly publications were used separately to frame and discuss the findings and were not counted among the 45 primary units. Selection was purposive rather than exhaustive, so the corpus cannot establish that an omitted legal mechanism or later development does not exist.

Each selected document received an identifier from D01 to D45 and was examined against 13 analytical features: IA, input authorization; TDM, text and data mining; RO, rights reservation or opt-out; TR, training-content transparency; HA, human authorship; HC, human creative control; AO, AI-generated output protection; SG, sui generis protection; AI-I, AI inventorship; HIC, human inventive contribution; LI, liability; TS, trade secrets; and REM, remedies. The reported coding protocol used 1 where a document expressly recognized or required the relevant feature, 0 where it expressly excluded it, and N/A where the issue fell outside the document's scope. Because several features involve conditional rights rather than simple propositions, explanatory legal interpretation accompanied the coding. That interpretation recorded the applicable provision, administrative reasoning, or judicial holding and distinguished legal obligation from a recommendation or proposal. N/A was not interpreted as a prohibition, and silence in one document was not treated as evidence that an entire jurisdiction lacked the corresponding mechanism.

The final comparison organized the documentary findings by analytical profile and legal function. It examined similarities and differences concerning training data, TDM, human contributions, generated outputs, inventorship, liability, trade secrets, and special protection regimes. The tables present qualitative legal syntheses, not numerical rankings of protection or regulatory quality. Frequencies describe the composition of this selected corpus and do not measure the prevalence, effectiveness, or relative authority of legal rules. No inferential statistical tests, experiments, or human-participant sampling were used. The manuscript reports the coding protocol and documentary inventory but does not reproduce a complete document-by-feature coding matrix; accordingly, the comparison should be read as a structured doctrinal synthesis. Legislation, judgments, registration decisions, guidance, and policy reports retain their different legal weight throughout the interpretation.

The cutoff also limits the temporal meaning of the findings. Publication of an official document before 27 August 2026 does not necessarily mean that every provision had entered into application by that date. Similarly, a proposed reform is not treated as enacted law, and a later correction or judicial development is outside the study unless it was already available within the stated period. For example, the WIPO document identified as D03 is the version published on 13 August 2026, rather than a subsequently corrected version. This distinction preserves the reported documentary sample while making its historical scope explicit.

4. RESULTS

The structured examination of 45 documents indicates that intellectual property regulation involving AI develops unevenly across jurisdictions and across stages of AI use. Within the selected corpus, the most detailed materials address copyright, protected content used in training, and human contributions to the final expressive result. Approaches to AI-assisted inventorship, responsibility across the development and deployment chain, and the legal status of model

components are less uniform. These observations describe differences within the selected instruments; they do not establish that any profile represents the entirety of the relevant jurisdiction's intellectual property law.

The primary corpus is heterogeneous in legal character, permitting comparison of legislative provisions alongside judicial interpretation, administrative practice, and official policy analysis. European Union materials form the largest group, with 13 units or 28.9% of the sample. The United States profile contains 11 documents, the United Kingdom profile nine, the Ukrainian profile seven, and the WIPO profile five. Across all profiles, 14 units are legislative instruments, seven are judgments, four are administrative decisions or records of registration practice, and 20 are policy documents, reports, guidance, or other institutional materials. Table 1 presents these counts and their sample shares. The percentages refer exclusively to documentary representation and should not be interpreted as measures of legal influence, doctrinal consensus, or regulatory completeness.

Table 1. *Composition Of The Documentary Sample By Analytical Profile And Source Type*

Analytical profile	Number (n)	Share (%)	Legislative instruments	Judicial and administrative materials	Policy, guidance, and reports
WIPO	5	11.1	0	0	5
European Union	13	28.9	7	3	3
United States	11	24.4	2	5	4
United Kingdom	9	20.0	2	2	5
Ukraine	7	15.6	3	1	3
Total	45	100.0	14	11	20

Note: The combined judicial and administrative category comprises seven judgments and four administrative decisions or records of registration practice. Percentages describe the purposive sample and are rounded to one decimal place. WIPO is an institutional policy profile rather than a national jurisdiction.

Source: Authors' classification of D01–D45, listed in Appendix A, Table A1.

The first finding concerns authorization at the input stage, including the collection and reproduction of protected materials for training. The EU instruments distinguish two TDM exceptions under Directive (EU) 2019/790. Article 3 concerns scientific research by qualifying research organizations and cultural heritage institutions with lawful access; Article 4 addresses broader TDM of lawfully accessible material, subject to its conditions, including the absence of an express rights reservation. For publicly available online content, Article 4(3) specifies reservation by appropriate means, such as machine-readable means. The Article 4 reservation mechanism should not be transferred to Article 3 as if the two exceptions were identical [21]. Article 53(1)(c)–(d) of the AI Act separately requires relevant general-purpose AI (GPAI) model providers to maintain a copyright-compliance policy and publish a sufficiently detailed summary of training content [22]. The voluntary GPAI Code of Practice and the Commission's training-summary template assist practical compliance [23, 24]. These obligations do not themselves license training or require publication of every individual item in a dataset. Their application must also be read with the Act's transitional provisions, including the deadline for providers of models placed on the market before 2 August 2025.

The selected United States materials present a different structure. No general statutory TDM exception equivalent to Article 4 of the DSM Directive appears in the corpus. Training-related uses instead require assessment under applicable exclusive rights, permissions, and exceptions, including the four-factor fair-use analysis in 17 U.S.C. section 107 [25]. The Copyright Office's Part 3 report examines reproduction, licensing, market effects, and fair use, but the version studied is expressly a pre-publication report dated 9 May 2025, not a binding judicial determination that training is generally lawful or unlawful [26]. In the United Kingdom, section 29A of the Copyright, Designs and Patents Act 1988 (CDPA) provides a more specific exception for computational analysis undertaken for non-commercial research by a person with lawful access, subject to statutory conditions [27]. The 2026 government report and impact assessment examine reform options; their analysis does not itself replace the existing exception or enact a general opt-out regime [28, 29].

Table 2 summarizes the four input-related parameters across all five analytical profiles. It separates the legal basis for using material from the availability of a mining exception, the possibility of reserving rights, and the existence of training-transparency duties. These features may interact, but the presence of one should not be taken as proof that the others are satisfied.

The next group of findings concerns authorship, creative control, and the protection of generated outputs. The relevant differences extend beyond the general recognition of human authorship to the treatment of material lacking sufficient attributable human expression. Ordinary copyright, the United Kingdom's statutory attribution provision for computer-generated works, and Ukraine's separate sui generis regime must therefore be distinguished. Otherwise, a broad claim of convergence around human authorship would conceal different legal consequences for outputs produced without an identifiable human author.

Table 2. *Comparative Findings On Training Data And Input Authorization*

Profile	IA: input authorization	TDM: text and data mining	RO: rights reservation	TR: training transparency
WIPO	Examines authorization and licensing as distinct intellectual property questions; the selected materials do not create binding international training permissions.	Discussed as an intellectual property policy issue rather than a harmonized international exception.	Examined as a possible policy mechanism, without establishing a universally binding reservation rule.	Encourages risk assessment and information practices; does not impose a universal statutory training-summary obligation.
European Union	Relevant acts require authorization or an applicable exception; lawful access alone does not permit every subsequent use.	DSM Article 3 concerns scientific research by qualifying institutions; Article 4 provides a broader exception subject to its conditions.	Article 4(3) permits express reservation, including appropriate machine-readable means for online content; this is distinct from Article 3.	AI Act Article 53 requires a sufficiently detailed public training-content summary for relevant GPAI providers, subject to transition rules.
United States	Permission, applicable exclusive rights, and fact-specific fair-use analysis determine the position under the selected federal materials.	No general TDM exception comparable to DSM Article 4 appears in the corpus; fair use remains a case-specific inquiry.	The corpus does not establish a general federal statutory AI-training opt-out equivalent to DSM Article 4(3).	The selected federal materials do not establish a general public-summary duty equivalent to AI Act Article 53; other obligations are outside this finding.
United Kingdom	Authorization depends on the relevant licence or statutory exception, together with its territorial and substantive conditions.	CDPA section 29A permits qualifying computational analysis for non-commercial research by a person with lawful access.	Broader reservation and licensing mechanisms are discussed in consultations and the 2026 report; proposals are not operative statutory exceptions.	Input and output transparency are considered in the 2026 report, which does not itself enact a general training-data disclosure duty.
Ukraine	Applicable intellectual property rights and the conditions of any permission or exception remain relevant to the use of protected material.	The selected documents do not establish a comprehensive AI-oriented TDM framework equivalent to the differentiated DSM model.	No directly comparable, general statutory AI-training reservation mechanism is identified in the selected documents.	The 2024 recommendations discuss training-related risks and documentation but do not create a binding public-summary regime.

Note: IA, TDM, RO, and TR refer to the analytical features defined in Materials And Methods. The entries synthesize legal interpretation of the selected documents; they are not binary scores or exhaustive statements about all applicable law. Rights reservation under Article 4 is not attributed to the distinct Article 3 exception. *Source:* Authors' analysis of D01–D15, D19, D21, D27, D30, D32–D36, D39, and D43; full citations appear in Table A1.

In the United States, human authorship remains essential to copyright protection. The Copyright Office's Part 2 report recognizes that using AI does not prevent protection of independently sufficient human-authored expression, including qualifying selection, arrangement, or modification. That protection does not automatically extend to underlying machine-generated elements. The report concludes that prompts alone generally do not provide sufficient control over expressive elements with currently available technology [30]. The registration decisions concerning *Zarya of the Dawn*, *Théâtre D'opéra Spatial*, and *SURYAST* illustrate the separation of human contributions from generated material [31–33]; the Office's registration guidance provides the broader administrative framework [34]. In *Thaler v. Perlmutter*, the Court of Appeals affirmed the initial human-authorship requirement for a work represented as entirely machine-created [35]. That holding should not be enlarged into a judicial determination of every possible AI-assisted workflow or a comprehensive test of how much human intervention is sufficient.

The selected EU materials do not establish a special exclusive right for wholly AI-generated works. The Court of Justice's judgments in *Infopaq*, *Painer*, and *Cofemel* provide foundational standards concerning original expression and the author's free and creative choices [36–38]. They predate the present generative-AI disputes and are used here as general doctrinal authorities, rather than direct judgments on contemporary model-generated outputs. The United Kingdom adopts a different statutory construction: CDPA section 9(3), read with the definition in section 178, attributes authorship of

specified computer-generated works to the person undertaking the arrangements necessary for their creation [27]. This does not automatically make every generative-AI output protectable. The 2026 report proposes removing this particular protection, while preserving ordinary protection for qualifying human-authored contributions; that proposal must be distinguished from an enacted repeal [28].

Ukraine provides a further variation. Article 1 of Law No. 2811-IX defines an author as a natural person and connects originality with the author's intellectual creative activity. Article 33 establishes a separate sui generis right for qualifying non-original objects generated by a computer program [39]. Consequently, an output's failure to satisfy ordinary copyright originality does not necessarily exclude all statutory economic protection. The special regime nevertheless has its own eligibility, entitlement, and lawful-use conditions and should not be described as automatic protection for every AI output. It also does not confer human authorship or moral rights on the program. Distinguishing this economic protection from copyright is necessary both for comparison with the United States and for identifying the rights that a beneficiary could actually exercise.

Table 3 compares human authorship, creative control, output protection, and sui generis protection. The table distinguishes human expression within a mixed work from independently generated material and distinguishes the EU database right from any proposed special right in AI outputs. These distinctions prevent the mere presence of a sui generis mechanism from being interpreted as equivalent protection for the same subject matter across all profiles.

Table 3. *Authorship, Creative Control, And Protection Of Generated Outputs*

Profile	HA: human authorship	HC: creative control	AO: output protection	SG: sui generis protection
WIPO	Human authorship is a principal starting point of the policy discussion, rather than a newly enacted international rule.	Discussed as relevant to attribution and assessment of creative contributions.	The selected institutional materials do not establish a universal protection regime for autonomous outputs.	Possible special protection models are matters for policy discussion rather than binding international entitlement.
European Union	General originality doctrine focuses on expression reflecting the author's intellectual creation.	Free and creative choices inform the assessment; the cited cases are foundational authorities rather than generative-AI rulings.	No special exclusive right for wholly autonomous AI outputs is established in the selected EU documents.	The existing sui generis database right is distinct from a special right in AI-generated outputs.
United States	Human authorship is required for copyright protection of the claimed expressive elements.	Sufficiently original human selection, arrangement, or modification may qualify; prompts alone generally do not establish control with current technology.	Machine-generated elements are not protected merely because they form part of an otherwise protectable human-authored work.	No AI-output-specific sui generis right is established by the selected federal documents.
United Kingdom	Ordinary authorship coexists with the statutory attribution rule for computer-generated works in CDPA section 9(3).	Necessary arrangements are relevant under section 9(3); that rule should not be equated with the ordinary originality inquiry.	Qualifying computer-generated works may receive protection under the CDPA; applicability to a particular generative output requires analysis.	The computer-generated works rule operates within copyright rather than as a separate AI-specific sui generis right.
Ukraine	An author is a natural person under Article 1 of Law No. 2811-IX.	Originality concerns attributable intellectual creative activity and decisions.	Qualifying human expression may receive copyright; non-original generated objects are assessed under the separate Article 33 regime.	Article 33 provides a distinct right for qualifying non-original computer-generated objects, subject to entitlement and lawful-use conditions.

Note: Ordinary human authorship, statutory attribution of computer-generated works, and a separate economic right in non-original objects are different legal mechanisms. A proposal to change protection is distinguished from an enacted amendment. Eligibility remains dependent on the applicable legal conditions.
Source: Authors' analysis of D01, D04–D05, D16–D18, D21–D26, D29–D30, D34–D35, D39, and D43–D45, identified and cited in Table A1.

The inventorship materials show greater convergence within the national profiles examined. In the United States, the Patent Act's provisions on the inventor and the inventor's declaration form the statutory framework [40], and *Thaler v. Vidal* holds that an inventor under the Act must be a natural person [41]. In the United Kingdom, the Patents Act 1977 provides the relevant statutory concepts [42]; the Supreme Court's decision in *Thaler v Comptroller-General* confirms that DABUS does not satisfy the statutory requirement for an inventor [43]. Ukrainian legislation similarly defines an inventor by reference to a human being whose intellectual creative activity produces an invention or utility model [44]. These findings concern inventor designation and entitlement. They do not establish that an invention becomes unpatentable merely because AI tools were used during its development.

This convergence does not supply a uniform threshold for human inventive contribution. None of the selected materials establishes a common numerical measure applicable across the national systems, and the exclusion of an AI system from inventor designation does not resolve every question about human conception or contribution. The corpus is not an exhaustive inventory of patent-office guidance, so this observation should not be read as a claim that no jurisdiction has issued AI-assisted inventorship guidance. WIPO documents D02 and D03 examine inventorship and human involvement in AI-enabled inventive processes without themselves creating binding national rules [45, 46]. Because the EU subset does not include the European Patent Convention or European Patent Office decisions, its N/A entries cannot support conclusions about European patent law as a whole.

Liability, trade secrets, and remedies also require separate treatment. The EU corpus includes general protection of undisclosed know-how and an intellectual property enforcement framework [47, 48], while AI Act Article 53 does not create a complete allocation of copyright liability among all actors in the AI value chain [22]. In the United Kingdom, *Getty Images v Stability AI* illustrates fact-specific adjudication, but should not be presented as a blanket ruling on the lawfulness of AI training. The UK training claims were not pursued to determination on their merits; the remaining copyright and trade-mark issues depended on the pleaded acts, territorial circumstances, and evidence [49]. The United States corpus likewise relies on existing copyright doctrine and enforcement mechanisms. Ukrainian recommendations address intellectual property risks for developers, users, and rightsholders, but are guidance rather than binding legislation [50]. Across these profiles, the availability of a remedy must be distinguished from proof that its substantive conditions are met in an individual dispute.

Table 4 summarizes inventorship, human inventive contribution, liability, trade secrets, and remedies. A finding that the selected documents do not address an AI-specific mechanism is reported as a limitation of coverage. It is not treated as evidence that ordinary patent, copyright, confidentiality, or procedural rules cease to apply to AI-related conduct.

Taken together, the findings identify four national or supranational regulatory configurations, alongside WIPO's international policy perspective. The EU configuration connects input-stage rules with copyright compliance, rights reservations under Article 4, and training-content summaries for GPAI models. Its principal analytical advantage is the identification of obligations before a particular infringement dispute arises. However, satisfying a transparency obligation does not determine whether a particular reproduction was licensed or fell within an applicable exception. Conversely, a rights reservation has the legal significance assigned to it by the relevant provision; it does not create a universal prohibition covering every use, actor, or exception. This configuration therefore requires separate verification of authorization, applicable conditions, and compliance duties.

The United States configuration depends more heavily on general copyright doctrine, administrative interpretation, and case-specific adjudication within the selected corpus. Its authorship materials draw a relatively explicit distinction between human-authored expression and material generated without sufficient human control. For training transparency, the corpus does not contain a federal obligation directly equivalent to the EU GPAI training-summary requirement. This is a bounded finding about the selected federal materials, rather than a claim that no state-level, contractual, procedural, or subsequently adopted transparency obligation exists anywhere in the United States. A careful comparison must keep those differences in coverage separate from the substantive operation of fair use.

The United Kingdom configuration combines an existing computer-generated works provision with continuing consideration of training-related reform. The 2026 report and impact assessment compare the status quo, stronger licensing requirements, a broad mining exception, and an exception coupled with rights reservation and transparency [28, 29]. These are alternative policy designs, rather than four simultaneously operative legal rules. The report also indicates that the government would gather further evidence before introducing copyright reform. Consequently, describing the United Kingdom as simply occupying a midpoint between EU and United States law would obscure its distinct statutory history and unresolved policy choices. The operative law and the government's preferred direction must be identified separately.

Ukraine's configuration is distinguished by express statutory recognition of a sui generis right in qualifying non-original computer-generated objects. This separates ordinary copyright authorship from certain economic interests in generated material, subject to the conditions of Article 33 [39]. Within the selected documents, training authorization, rights reservations, and transparency receive less detailed binding treatment than in the EU framework. The 2024 recommendations discuss training, inputs, outputs, contracts, and risk allocation, but do not themselves create a mandatory

regime equivalent to EU Articles 3–4 and AI Act Article 53 [50]. Their practical relevance therefore lies in guidance for lawful conduct and documentation, while the legal basis for enforceable duties must still be found in legislation, applicable agreements, or other binding authority.

Table 4. *Inventorship, Liability, Trade Secrets, And Remedies*

Profile	AI-I: AI inventorship	HIC: human contribution	LI: liability	TS: trade secrets	REM: remedies
WIPO	Examines national approaches; the documents do not establish a binding international AI-inventorship rule.	Human involvement in AI-assisted invention is an identified policy and doctrinal issue.	Provides policy analysis rather than a directly enforceable liability regime.	Discusses confidentiality and trade-secret safeguards as relevant intellectual property tools.	Availability and conditions of remedies depend on applicable national or regional law.
European Union	Not directly determined by this EU subset; European Patent Office instruments are outside the sample.	No common AI-assisted inventorship threshold can be derived from the selected EU documents.	General intellectual property rules remain relevant; AI Act Article 53 does not allocate all copyright liability.	Directive (EU) 2016/943 protects qualifying undisclosed know-how and business information.	Directive 2004/48/EC provides a general enforcement framework, subject to its conditions.
United States	Thaler v. Vidal confirms that an inventor under the Patent Act must be a natural person.	Human inventive contribution must be assessed under applicable law; the corpus does not establish a universal numerical threshold.	Existing copyright doctrines and fact-specific analysis apply to relevant conduct.	The corpus does not separately analyze the general trade-secret framework or establish an AI-specific regime.	Ordinary copyright and patent remedies remain relevant; entitlement and infringement must be established.
United Kingdom	The Supreme Court's Thaler decision excludes an AI system from the statutory concept of inventor.	The selected materials do not supply a common quantitative measure of sufficient AI-assisted human contribution.	Existing rules apply; Getty Images illustrates fact-specific adjudication rather than a universal training-liability test.	No separate AI-specific trade-secret mechanism is established in this selected corpus.	General remedies remain subject to the cause of action, facts, and territorial requirements.
Ukraine	The legislation defines an inventor by reference to human intellectual creative activity.	No universal AI-specific contribution threshold is established in the selected documents.	General intellectual property rules coexist with non-binding recommendations on responsible AI use.	General confidentiality protection may be relevant, but no distinct AI-specific regime is identified here.	Ordinary intellectual property remedies apply where their substantive and procedural conditions are met.

Note: Lack of coverage is not a negative statement about an entire legal system. In particular, the EU subset does not represent European patent law, and the United States subset is not an exhaustive collection of patent-office guidance. N/A at document level means that the feature is outside that document's scope.
Source: Authors' analysis of D01–D05, D11–D12, D20, D28, D31, D35–D38, and D41–D43; see Table A1 for document identities and citations.

Overall, the structured comparison does not identify a single intellectual property model for AI. Human contributions remain important for ordinary authorship and inventor designation, while special output regimes and statutory attribution rules qualify any claim of complete convergence. The principal differences concern the treatment of insufficient human input, authorization of training-related acts, and preventive transparency mechanisms. The selected materials also leave unresolved questions about attributing responsibility within workflows involving several actors. These results support organizing future analysis around a legally significant act at the input, model, or output stage, connected to a particular person, protected object, and evidentiary record. They do not establish a universal liability formula or justify treating the entire technical system as one indivisible legal object.

5. DISCUSSION

The findings suggest that a principal difference among the selected profiles lies in the timing and form of regulatory intervention. The EU instruments connect training-related exceptions, rights reservation, and model-provider compliance duties, while the United States federal materials emphasize fair use, administrative interpretation, and case-specific assessment. The United Kingdom combines existing statutory rules with active policy review, and Ukraine provides a distinct economic protection mechanism for certain non-original generated objects. These configurations cannot be reduced to a single scale running from innovation-friendly to rightsholder-friendly regulation. Each addresses different objects, actors, and procedural stages, and each must be evaluated against its own statutory conditions and institutional context.

The difference between EU and United States approaches to training is consistent with the comparative account offered by Li et al. [51], who contrast industry-oriented and rights-oriented tendencies and discuss fair remuneration. The present findings qualify that contrast. The EU framework does not confer an unrestricted veto on every rightsholder, because its separate mining exceptions have different beneficiaries and conditions. United States fair use likewise requires legal analysis rather than an automatic preference for developers. The practical differences concern the allocation of authorization costs, information, evidentiary burdens, and litigation risk. Remuneration proposals may address some distributional concerns, but require a defensible legal basis and workable rules identifying beneficiaries, covered uses, collection, and allocation. Precise measurement of each work's causal influence on model parameters should not be assumed to be either technologically straightforward or the only possible basis for a future remuneration mechanism [51].

Thongmeensuk [52] supports considering differentiated copyright exceptions and opt-out arrangements when balancing innovation with protection. The findings similarly indicate the analytical value of distinguishing research contexts from broader uses, although such a policy proposal should not be confused with the precise scope of existing EU Articles 3 and 4. Implementation remains difficult: rightsholders need usable methods to express reservations, and developers need reliable methods to recognize and respect them. Transparency can assist verification, but a public summary may not reveal whether an individual work appeared in a training corpus. Rights-reservation and transparency mechanisms should therefore be assessed together with recordkeeping, licensing practices, and access to evidence through appropriate procedures. Otherwise, formal choices may be difficult for either side to exercise or verify [8, 52].

The treatment of software within TDM analysis is particularly significant. Widła [53] examines difficulties at the interface between the DSM Directive and the EU software-protection framework. This supports the broader conclusion that a shared reference to TDM does not eliminate differences among protected subject matter. A mixed training corpus may contain literary works, photographs, database contents, and software code, with different rights, exceptions, and licensing conditions. Reproduction and alteration of code require attention to the relevant software rules rather than an assumption that every content category receives identical treatment. Consequently, a general statement permitting or prohibiting "AI training" is analytically insufficient unless it identifies the input, the act performed, the right engaged, and the conditions of any permission or exception [53].

The emphasis on human contributions is broadly consistent with Wang [54] and Villegas Tovar and Pinto Avendaño [55], but the comparison reveals different consequences when those contributions are absent or insufficient. Wang considers regulatory responses and collective management among possible approaches to AI-generated material. Before selecting a rights-management mechanism, however, it is necessary to establish whether the relevant right exists, which elements it covers, and who is entitled to exercise it. Collective licensing does not itself establish originality or transform unprotected material into a copyrighted work. A management framework must therefore distinguish human-authored contributions, statutory computer-generated works where applicable, separate economic rights, and material for which no relevant exclusive right has been demonstrated [54].

In patent law, Villegas Tovar and Pinto Avendaño [55] reconsider inventorship and discuss possible special protection for AI-generated inventions. Their contribution reinforces the need to examine human involvement rather than rely solely on claims of technical autonomy. Nevertheless, the Ukrainian copyright-related sui generis regime cannot establish the desirability of a corresponding patent regime. The subject matter, eligibility requirements, duration, disclosure obligations, and public-interest functions would differ. Any proposed additional right should therefore be evaluated for its effects on novelty, inventive step, access to technical knowledge, and existing patent incentives. A special regime could address a particular policy gap, but its creation would require an independent justification rather than a direct analogy with protection for non-original expressive objects [20, 55].

The comparison therefore supports a functional analysis of inputs, model operations, and outputs, with separate questions about authorization, attribution, and responsibility. Further research should examine evidence of sufficient human creative and inventive contribution, the technical operation of rights reservations, the accessibility of training records, and the allocation of duties across development and deployment. The purposive sample and the institutional differences among the five profiles limit generalization. In addition, legal texts alone cannot establish how consistently

a rule is followed, how expensive compliance becomes, or whether a proposed mechanism improves licensing outcomes. Those questions require broader documentary coverage and, where appropriate, empirical investigation. The present findings provide a basis for organizing that work, rather than a comprehensive assessment of regulatory effectiveness.

6. CONCLUSIONS

This study identifies several distinct approaches to intellectual property questions arising from AI development and use. They differ in the authorization of training-related acts, the conditions for protecting generated material, the attribution of human creative and inventive contributions, and the available liability and enforcement mechanisms. The primary basis is a purposive corpus of 45 legislative, judicial, administrative, and official analytical documents across five institutionally distinct profiles. Examination against 13 analytical features supports comparison of specific legal functions while preserving the different authority of statutes, judgments, administrative practice, and non-binding policy materials. The results constitute a historically bounded doctrinal synthesis as of 27 August 2026.

Within this corpus, the EU framework provides the most explicit connection between differentiated TDM exceptions, rights reservation, GPAI copyright compliance, and public summaries of training content. United States federal materials rely more heavily on fair use, registration guidance, and case-specific interpretation. United Kingdom law retains a computer-generated works provision and a non-commercial research mining exception while reform proposals remain distinct from operative legislation. Ukraine expressly protects qualifying non-original computer-generated objects through a separate sui generis regime. These configurations demonstrate that authorization to use inputs and entitlement to protect outputs are different questions, neither of which can be answered solely by identifying a system as generative AI.

Human contributions remain central to ordinary copyright authorship and to inventor designation in the national materials examined. That common starting point does not erase the United Kingdom's statutory attribution rule or Ukraine's separate economic protection regime. Nor does it supply a common numerical threshold for creative or inventive sufficiency. As generative tools become integrated into complex workflows, the legally relevant inquiry must therefore identify particular contributions and their connection to protected expression or the claimed invention. A binary distinction between human and machine output is insufficient where the final product combines several forms of participation.

A practical analytical model should distinguish input, model, and output stages and connect rights, duties, and responsibility to identified conduct. Rightsholders require workable methods for expressing and enforcing applicable rights and for obtaining relevant evidence. Developers and providers require documented provenance, a valid legal basis for protected uses, and procedures appropriate to their actual obligations. Users need to distinguish contractual permission to use a service from ownership of a protectable output. Legislators and institutions should clarify the evidence required for human authorship and inventorship while separately considering whether any additional economic protection is justified. These are policy implications derived from the comparison, rather than claims that all jurisdictions already impose identical documentation or attribution duties.

The study's limitations arise from purposive selection, unequal documentary representation, institutional differences, and a rapidly changing legal landscape. The 13-feature framework also simplifies provisions that may contain several conditions, beneficiaries, or exceptions. Because the complete document-level coding matrix is not reproduced, the tables should not be interpreted as independently validated quantitative measures. Future work should broaden jurisdictional coverage, examine additional patent-office guidance and training-related judgments, and develop reproducible methods for documenting human contributions. It should also assess the practical costs and evidentiary value of transparency and rights-reservation mechanisms. Such research would help determine whether the proposed staged analysis improves legal certainty in actual creative, inventive, and licensing workflows.

Author Contributions

Anzhelika Krusian: Conceptualization, Methodology, Supervision, Writing – Review & Editing. Oleksandra Tarasenko: Investigation, Formal Analysis, Data Curation, Writing – Original Draft. Yurii Prykhodko: Methodology, Validation, Investigation, Writing – Original Draft. Ivan Martyniuk: Resources, Investigation, Validation, Writing – Review & Editing. Nataliia Lagovska: Formal Analysis, Supervision, Writing – Review & Editing. All authors contributed to the development of the study, critically reviewed the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

Conflict of Interest

The authors declare no conflicts of interest.

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Data Availability

The materials supporting this research are available from the corresponding author upon reasonable request. The public primary-source inventory is reproduced in Appendix A, Table A1; official access links and publication identifiers are provided in the reference list. Requests for the underlying coding records should identify the relevant document codes and analytical features to facilitate interpretation of the reported comparisons.

APPENDIX A. PRIMARY LEGAL AND OFFICIAL ANALYTICAL SOURCES

The complete primary corpus is presented in Table A1. Document codes D01–D45 identify analytical units and are independent of the numerical reference labels, which follow first-citation order throughout the manuscript and appendix. Each row records the responsible jurisdiction or institution, document identity, publication or legislative status, source type, and analytical relevance.

Table A1. *Primary Documentary Corpus And Analytical Relevance*

Code	Jurisdiction or institution	Document and citation	Year or status	Document type	Analytical relevance
D01	WIPO	Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1 REV [56]	2020	Official policy document	Forms an international conceptual framework for AI authorship, inventorship, patentability, copyright, training data, trade secrets, and liability.
D02	WIPO	Artificial Intelligence (AI) and Inventorship, SCP/35/7 [45]	2023	Document of the Standing Committee on the Law of Patents	Used to compare national approaches to defining an inventor and the issues of AI inventorship.
D03	WIPO	Artificial Intelligence (AI) and Inventorship (update of SCP/37/5), SCP/38/5 [46]	2026, published 13 August 2026	Official meeting document prepared for the 38th session of the SCP	Reflects the current state of the international debate on human inventorship and AI-assisted inventions. It is not to be construed as a final decision of the 38th session of the SCP.
D04	WIPO	Getting the Innovation Ecosystem Ready for AI: An IP Policy Toolkit [57]	2024	Official policy toolkit	Used to evaluate models of IP system adaptation to the spread of AI without granting AI independent legal personality.
D05	WIPO	Generative AI: Navigating Intellectual Property [58]	2024	Official analytical publication	Covers IP risks related to training inputs, outputs, confidentiality, trade secrets, and the use of third-party intellectual property.
D06	European Union	Regulation (EU) 2024/1689 laying down harmonized rules on artificial intelligence, Artificial Intelligence Act [22]	2024	EU Regulation	Used to analyze copyright compliance obligations of GPAI model providers and requirements for public summary of training content.
D07	European Union	Directive (EU) 2019/790 on copyright and related rights in the Digital Single Market [21]	2019	EU Directive	Articles 3 and 4 establish distinct TDM exceptions with different beneficiaries and conditions. Article 4 permits express rights reservation; that reservation mechanism is not a condition of the Article 3 scientific-research exception.

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Table A1 (continued)

Code	Jurisdiction or institution	Document and citation	Year or status	Document type	Analytical relevance
D08	European Union	Directive 2001/29/EC on the harmonization of certain aspects of copyright and related rights in the information society [59]	2001	EU Directive	Provides a regulatory framework for evaluating reproduction rights, communication rights, and copyright exceptions when using protected materials by AI systems.
D09	European Union	Directive 2009/24/EC on the legal protection of computer programs [60]	2009	EU Directive	Used to determine the copyright protection regime of the software component of AI systems.
D10	European Union	Directive 96/9/EC on the legal protection of databases [61]	1996	EU Directive	Provides a basis for analyzing copyright and sui generis database protection for datasets and structured training datasets.
D11	European Union	Directive (EU) 2016/943 on the protection of undisclosed know-how and business information against their unlawful acquisition, use and disclosure [47]	2016	EU Directive	Used to assess the protection of proprietary datasets, model-related know-how, confidential technical information, and other AI assets as trade secrets.
D12	European Union	Directive 2004/48/EC on the enforcement of intellectual property rights [48]	2004	EU Directive	Provides a basis for comparing injunctions, damages, and other enforcement mechanisms in AI-related IP infringement cases.
D13	EUIPO	The Development of Generative Artificial Intelligence from a Copyright Perspective [62]	2025	Official EUIPO research report	Systematizes copyright issues into input and output stages, TDM opt-outs, licensing, transparency, and technical rights reservation mechanisms.
D14	European Commission	General-Purpose AI Code of Practice, Copyright Chapter [23]	2025	Official voluntary compliance instrument	Used to analyze practical ways to demonstrate compliance with copyright-related obligations under the AI Act for GPAI providers.
D15	European Commission	Explanatory Notice and Template for the Public Summary of Training Content for General-Purpose AI Models [24]	2025	Official guidance and template	Operationalizes the requirement for a public summary of content used for training GPAI models and is used to assess the level of training transparency.
D16	Court of Justice of the European Union	Infopaq International A/S v Danske Dagblades Forening, Case C-5/08, ECLI:EU:C:2009:465 [36]	2009	Court decision	Provides foundational authority on original expression and reproduction of protected elements in automated processing. It is relevant by analogy and does not decide the legality of contemporary generative-AI training.
D17	Court of Justice of the European Union	Eva-Maria Painer v Standard VerlagsGmbH and Others, Case C-145/10, ECLI:EU:C:2011:798 [37]	2011	Court decision	Explains originality through free and creative choices reflecting the author's personality. Used as a general doctrinal authority when assessing human expression, not as a direct ruling on AI-assisted works.
D18	Court of Justice of the European Union	Cofemel – Sociedade de Vestuário SA v G-Star Raw CV, Case C-683/17, ECLI:EU:C:2019:721 [38]	2019	Court decision	Clarifies the originality requirement and the concept of a copyright work. Supports analysis of attributable creative expression without establishing an independent generative-AI copyright regime.

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Table A1 (continued)

Code	Jurisdiction or institution	Document and citation	Year or status	Document type	Analytical relevance
D19	United States	United States Copyright Act, Title 17 USC, in particular §§ 102, 106, 107 [25]	Version at cutoff	Federal legislation	§102 is used for human authorship/originality, §106 for exclusive rights, §107 for fair use when evaluating AI training.
D20	United States	United States Patent Act, Title 35 USC, in particular §§ 100, 101, 115 [40]	Version at cutoff	Federal legislation	Used to define the concept of inventor, patent-eligible subject matter, and requirements for identifying the inventor.
D21	US Copyright Office	Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 88 Fed. Reg. 16190 [34]	2023	Official administrative guidance	Defines rules for disclosure and registration of works that combine human-authored and AI-generated material.
D22	US Copyright Office	Zarya of the Dawn, registration decision [31]	2023, 21 February	Administrative decision	Used to distinguish between protected human copyright contributions and unprotected Midjourney-generated images.
D23	US Copyright Office Review Board	Théâtre D'opéra Spatial, Review Board decision [32]	2023, 5 September	Administrative decision	Provides material for evaluating whether prompting can provide sufficient human creative control over AI-generated output.
D24	US Copyright Office Review Board	SURYAST [33]	2023, 11 December	Administrative decision	Used to define the boundaries of human authorship and protectable human contribution to AI-assisted visual works.
D25	US Copyright Office	Copyright and Artificial Intelligence, Part 1: Digital Replicas [63]	2024	Official report	Used to analyze digital replicas, AI-generated likenesses, and the relationship of copyright with related privacy mechanisms.
D26	US Copyright Office	Copyright and Artificial Intelligence, Part 2: Copyrightability [30]	2025	Official report	Analyzes the copyrightability of outputs and human selection, arrangement, modification, and prompting. It is a report, not a court decision, and distinguishes protected human expression from underlying generated material.
D27	US Copyright Office	Copyright and Artificial Intelligence, Part 3: Generative AI Training [26]	2025, Pre-Publication Version, 9 May 2025	Official report, pre-publication version	Analyzes reproduction, fair use, licensing, market effects, and potential liability when using copyright-protected works to train generative AI.
D28	US Court of Appeals for the Federal Circuit	Thaler v. Vidal, 43 F.4th 1207 [41]	2022	Precedential court decision	Confirms that an inventor under the Patent Act must be a natural person.
D29	US Court of Appeals for the District of Columbia Circuit	Thaler v. Perlmutter, No. 23–5233 [35]	2025	Court decision	Affirms initial human authorship for a work represented as wholly machine-created. Does not establish a comprehensive contribution threshold for every AI-assisted creative process or every mixed human–AI work.
D30	United Kingdom	Copyright, Designs and Patents Act 1988 [27]	1988, version at cutoff	Law	Of particular importance are the rules on computer-generated works, attribution of authorship, copyright term, and TDM exception.
D31	United Kingdom	Patents Act 1977 [42]	1977, version at cutoff	Law	Used to determine statutory requirements regarding inventor and entitlement to patent.

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Table A1 (continued)

Code	Jurisdiction or institution	Document and citation	Year or status	Document type	Analytical relevance
D32	UK Intellectual Property Office	Artificial Intelligence and Intellectual Property: Copyright and Patents [64]	2021	Official consultation document	Covers computer-generated works, TDM and AI-devised inventions and is used to reconstruct the British regulatory debate.
D33	UK Government	Artificial Intelligence and Intellectual Property: Copyright and Patents – Government Response to Consultation [65]	2022	Government response	Records the government's official response to proposals for computer-generated works, TDM, and patent protection for AI-devised inventions.
D34	UK Government / Intellectual Property Office	Copyright and Artificial Intelligence [66]	2024	Official consultation paper	Analyzes AI training, licensing, rights reservation/opt-out, transparency, AI outputs, computer-generated works and digital replicas.
D35	UK Government	Report on Copyright and Artificial Intelligence [28]	2026, published 18 March 2026	Policy report presented to Parliament	Examines training, licensing, transparency, enforcement, digital replicas, and computer-generated works. Reform proposals, including proposed removal of special computer-generated protection, are distinguished from operative law.
D36	UK Government	Copyright and Artificial Intelligence: Impact Assessment [29]	2026, published 18 March 2026	Regulatory impact assessment	Compares the economic and regulatory consequences of the status quo, licensing requirement, broad data-mining exception, and data-mining exception with rights reservation mechanism.
D37	UK Supreme Court	Thaler v Comptroller-General of Patents, Designs and Trade Marks, [2023] UKSC 49 [43]	2023	Court decision	Confirms that an inventor under the Patents Act 1977 must be a natural person and rejects the claimed machine-based entitlement in the applications at issue. It does not exclude all AI-assisted inventions from patentability.
D38	High Court of Justice of England and Wales	Getty Images (US) Inc and Others v Stability AI Ltd, [2025] EWHC 2863 (Ch) [49]	2025	Court decision	Examines remaining copyright and trade-mark claims on specific evidence and territorial facts. The training claims were not determined on their merits, so the judgment is not a general ruling that AI training is lawful.
D39	Ukraine	Law of Ukraine "On Copyright and Related Rights" No. 2811-IX [39]	2022, version at cutoff	Law of Ukraine	Defines human authorship and establishes Article 33 protection for qualifying non-original computer-generated objects. The special economic right is distinct from copyright and subject to eligibility, entitlement, and lawful-use requirements.
D40	Ukraine	Civil Code of Ukraine No. 435-IV, Book Four "Intellectual Property Law" [67]	2003, version at cutoff	Code	Defines the basic system of subjects, objects, personal non-property and property rights of intellectual property.
D41	Ukraine	Law of Ukraine "On Protection of Rights to Inventions and Utility Models" No. 3687-XII [44]	1993, version at cutoff	Law of Ukraine	Used to determine the Ukrainian model of invention and the possibility of legal protection of AI-assisted inventions.

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Table A1 (continued)

Code	Jurisdiction or institution	Document and citation	Year or status	Document type	Analytical relevance
D42	Ukraine	Order of the Cabinet of Ministers of Ukraine No. 1556-r, 2 December 2020, approving the Concept for the Development of Artificial Intelligence in Ukraine [68]	2020	Government policy document	Provides context for national AI policy rather than an independent copyright or patent entitlement. Approval of a policy concept should not be interpreted as enactment of an AI-specific intellectual property protection regime.
D43	Ukraine	Ministry of Digital Transformation of Ukraine, Ministry of Economy of Ukraine, UKRNOIVI and partners. Recommendations on the responsible use of AI: intellectual property rights issues [50]	2024, November	Official recommendations	Discusses intellectual property risks in creating, training, and using AI, including inputs, outputs, contracts, and responsibility. These official recommendations are non-binding and do not replace statutory rights or conditions.
D44	Ukraine	UKRNOIVI. Copyright in Publishing: Manual, Section "Issues Relating to Artificial Intelligence" [69]	2024	Official practical manual	Explains practical copyright questions in publishing, including issues related to AI under Ukrainian legislation. The manual assists interpretation but is not equivalent to a statute or binding judicial decision.
D45	Ukraine	UKRNOIVI. In Ukraine, for the first time, copyright has been registered for works that include images generated by AI [70]	2024, 20 September 2024	Official record of registration practice	Records registration of the compiled collection "Easter Postcards, incorporating AI-generated images. The example concerns human compilation and does not establish automatic copyright in the generated images themselves.

Note: D01–D45 constitute the complete purposive primary sample ($n = 45$). The documentary cutoff is 27 August 2026; references to current legislation mean the version relevant at that cutoff, rather than an assertion that subsequent amendments have been included. The August 2026 version of D03 is used, without incorporating later corrections. Source categories preserve the distinction between binding instruments, judgments, administrative decisions, and non-binding institutional analysis.

The inclusion criteria concern direct relevance to AI-related inputs, outputs, authorship, inventorship, transparency, licensing, liability, or enforcement. General ethical or data-protection materials without a direct intellectual property connection were excluded, as were duplicate documents and secondary commentary from the primary count. Scholarly literature is cited separately to contextualize the doctrinal comparison.

The 13 analytical features are IA (input authorization), TDM (text and data mining), RO (rights reservation), TR (training transparency), HA (human authorship), HC (human creative control), AO (output protection), SG (sui generis protection), AI-I (AI inventorship), HIC (human inventive contribution), LI (liability), TS (trade secrets), and REM (remedies). Conditional legal rules require accompanying textual interpretation. A document's silence or an N/A classification does not establish that the corresponding legal mechanism is absent from the entire jurisdiction.

Source: Authors' documentary inventory. Each entry is linked to its official source through the corresponding reference. Titles originally published in Ukrainian are given in English translation or transliteration for identification; the authoritative legal or institutional text remains the original source.

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