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Human Contribution as a Gatekeeper for Rights in AI-Assisted Outputs: Vietnam's 2026 Reform in Comparative Perspective

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Abstract

Generative artificial intelligence (AI) destabilizes a basic assumption shared by copyright and patent law: that a legally relevant creative or inventive result can be traced to a human contributor. This article examines human contribution as a gatekeeping condition for intellectual property (IP) rights in AI-assisted outputs, using Vietnam's 2026 reform as the principal case study and comparing it with the United States, the EU copyright and European patent frameworks, the United Kingdom, and Australia, with focused copyright comparisons to China and Japan. A doctrinal and functional comparative method is applied to legislation, judicial decisions, administrative guidance, and recent scholarship. Among the systems examined, Vietnam specifies human activities for both fields. Copyright and related rights in AI-assisted subject matter require a significant and decisive contribution. For inventions, industrial designs, and layout designs, the decree enumerates four mandatory activities. For AI-assisted recordings, the same threshold applies to human fixation, while a company can hold the producer's right. The article proposes a Human Contribution Gatekeeper framework based on origination, direction, transformation or validation, and final determination or responsibility. It links each claimed feature to a named person's decision before addressing protectability or ownership. Whether a research team may perform the four activities collectively remains unresolved.

Keywords: artificial intelligence; human contribution; copyright; patent law; authorship; inventorship; Vietnam; comparative law

1. Introduction

Generative artificial intelligence (AI) has made the distinction between human creation and machine production increasingly difficult to draw. Earlier software generally executed rules whose expressive or technical consequences remained attributable to a programmer or user. Contemporary generative systems can instead produce text, images, code, designs, and technical proposals that are not fully specified in advance by the person operating the system. The legal difficulty is therefore not simply whether an AI system can be called creative. It is whether a human participant has contributed enough to justify attribution of authorship or inventorship under legal regimes built around natural persons. This issue is now central to both copyright and patent law, although the two fields express the problem through different doctrinal vocabularies (Gervais 2020; Hugenholtz and Quintais 2021; Lada 2023; Gaidartzi and Stamatoudi 2025).

The familiar binary between 'AI-assisted' and 'AI-generated' output is useful but insufficient. Human involvement exists on a continuum. A person may use AI for spelling correction or routine coding, provide detailed inputs and constraints, repeatedly select and

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refine generated material, integrate machine output into a larger human-created whole, or merely request a result and accept the first response. At the same time, different humans may participate at different stages: developers design the system, data curators shape training inputs, users formulate prompts or technical objectives, editors or researchers validate outputs, and employers or investors provide resources. The existence of some human involvement therefore does not answer the legal question. The more important inquiry is which kinds of contribution are legally relevant and how substantial those contributions must be.

Most contemporary legal systems preserve a human-centered structure. In copyright, the United States Copyright Office concluded in 2025 that generative-AI output is protectable only to the extent that a human author determines sufficient expressive elements; prompts alone will generally not satisfy that standard, although creative selection, arrangement, and modification may do so (U.S. Copyright Office 2025). The D.C. Circuit confirmed in Thaler v. Perlmutter that the U.S. Copyright Act requires human authorship, and the U.S. Supreme Court denied review in March 2026 (United States Court of Appeals for the District of Columbia Circuit 2025; Supreme Court of the United States 2026). European Union law links originality to an author's own intellectual creation, expressed through free and creative choices (Court of Justice of the European Union 2009, 2011, 2012, 2019). In patents, the United States, United Kingdom, European Patent Office (EPO), and Australia have all rejected attempts to name the DABUS AI system as an inventor under existing law (United States Court of Appeals for the Federal Circuit 2022; Supreme Court of the United Kingdom 2023; Full Court of the Federal Court of Australia 2022; European Patent Office 2026).

These authorities share a commitment to human centrality, but they do not all provide an operational answer to the same question: what counts as enough human contribution? 'Human authorship', 'human creativity', 'conception', 'free and creative choices', and 'inventorship' may identify a principle without supplying a sufficiently transparent method for borderline cases. This gap becomes especially serious when the same AI workflow includes both creative and technical outputs, or when national law attempts to regulate AI across several IP categories at once. A legal system may otherwise become inconsistent, treating similar human actions as sufficient in one field and irrelevant in another.

Vietnam's 2025–2026 IP reform is therefore particularly significant. Law No. 131/2025/QH15, adopted on 10 December 2025 and effective from 1 April 2026, expressly authorizes the Government to regulate the arising and establishment of IP rights where protected subject matter is created using AI systems (National Assembly of Vietnam 2025). Two implementing decrees then introduced detailed contribution requirements. Decree No. 134/2026/ND-CP, signed on 6 April and effective on 9 April 2026, provides that copyright and related rights in AI-assisted outputs arise only where human participation is significant and decisive, accompanied by responsibility for legality and respect for rights in protected inputs (Government of Vietnam 2026b). Decree No. 100/2026/ND-CP, signed on 31 March and effective on 1 April 2026, provides that rights in AI-assisted inventions, industrial designs, and layout designs may be established only where humans make a significant contribution, and it specifies a cumulative series of human activities relevant to that determination (Government of Vietnam 2026a).

Vietnam's approach is noteworthy not because it recognizes AI as an author or inventor. It does the opposite: it uses human contribution as a statutory gatekeeper. Yet this gatekeeper performs several functions at once. It determines whether a right can arise, identifies the human who may be treated as author or inventor, directs attention to evidence of the creative process, and allocates responsibility for the result. Those functions are related but not identical. A person may contribute enough to qualify as author while the work still

lacks originality; a person may qualify as inventor while the claimed invention remains obvious; and a company may own rights even though an employee supplied the legally relevant human contribution. A well-designed framework should therefore prevent the human-contribution inquiry from becoming a substitute for every other requirement of IP law.

This article addresses three research questions. First, how do contemporary IP systems use human contribution as an express or implicit gatekeeper for AI-assisted outputs? Second, what does Vietnam's 2026 dual-IP model add to the comparative debate, and where does it create new interpretive difficulties? Third, can a cross-IP framework identify the core dimensions of legally relevant human contribution while still preserving the distinctive substantive tests of copyright and patent law? The article argues that a four-dimension Human Contribution Gatekeeper (HCG) can improve consistency: origination of the creative or technical objective; direction and constraint-setting; transformation, evaluation, or validation of machine output; and final determination accompanied by responsibility. The dimensions should operate as a flexible, domain-sensitive inquiry rather than as a mechanical scoring exercise. Section 4.5 applies these questions to ordinary tool use, collaborative generation, and near-autonomous generation. The tier indicates where a decision about the claimed expression or technical feature needs evidence.

The contribution is both descriptive and normative. Descriptively, the article identifies Vietnam as the jurisdiction in this comparison that expressly enumerates human activities across copyright and industrial property. Normatively, it argues that human contribution should serve a limited gatekeeping role: it should answer whether a human can be attributed authorship or inventorship in an AI-assisted process, but should not automatically answer originality, inventive step, ownership, or the legality of training data. This distinction allows legal systems to preserve human-centered IP without either treating every prompt as authorship or excluding genuine human-AI collaboration merely because a machine supplied part of the expressive or technical form.

Vietnamese scholarship had already identified the difficulty of assigning copyright in machine-generated works (Dương 2024; Phan and Nguyen 2025). Do et al. (2026) likewise contrasted China's case-specific decisions with Vietnam's prospective rules on authorship, training, and liability. This article asks a narrower question that those comparisons leave open. Does the same human decision count when a claimant seeks rights in an illustration, in its recorded performance, or in an invention? The decrees give different answers even within Vietnam.

2. Materials and Methods

This study uses doctrinal legal research combined with functional comparative analysis. Primary materials include statutes, regulations, judicial decisions, patent-office and copyright-office guidance, and official policy reports. Secondary materials include peer-reviewed scholarship on AI authorship, inventorship, originality, copyright ownership, and human contribution. Legal developments were reviewed through 22 August 2026. Where an official English translation of Vietnamese legislation was unavailable or incomplete, the analysis is based on the official Vietnamese text and the author's English translation of the relevant provisions. Appendix A aligns each paragraph and lettered point of the Vietnamese provisions with an English rendering. The translation retains distinctions between creating, fixing, and performing and preserves each connective and internal cross-reference. In Article 10a, tác giả is translated as 'author', the statutory term that also covers the person who devised an invention. Practitioner summaries were compared with the promulgated Vietnamese wording where their accounts of control or cumulative conditions differed.

The comparative jurisdictions were selected purposively rather than statistically. The United States was selected because it has produced recent administrative guidance and appellate authority on both AI authorship and AI-assisted inventorship. EU copyright law supplies the Court of Justice's originality standard. The European Patent Convention is a separate treaty, and the EPO is an organ of the European Patent Organisation, outside the EU legal order. EPO decisions are compared only on the patent side. The United Kingdom was selected because it combines a legacy statutory rule for computer-generated copyright works with a recent policy reconsideration of that rule and a definitive Supreme Court judgment on DABUS. Australia was selected because its DABUS litigation produced an initial judicial willingness to interpret 'inventor' broadly before the Full Court restored a natural-person requirement. Vietnam is the focal jurisdiction because its 2026 decrees operationalize human contribution with an unusual degree of specificity across multiple IP categories. China's decided image-generation dispute and Japan's 2024 copyright guidance serve as focused Asian comparisons on prompting and selection. The study makes no corresponding claim about Chinese or Japanese patent law.

The analysis is functional in two respects. First, the article compares legal functions rather than assuming that identical terminology has identical meaning. 'Human authorship', 'own intellectual creation', 'conception', and 'significant contribution' are treated as different doctrinal techniques for solving the attribution problem. Second, the article separates four legal questions that are often collapsed in AI debates: (1) whether a human author or inventor exists; (2) whether the output satisfies substantive protection conditions such as originality or inventive step; (3) who owns or may register the resulting right; and (4) whether the creation process complied with rules concerning third-party rights, data, or other legal constraints. The common questions are where the law decides attribution, what protection remains when no one qualifies as author or inventor, and what evidence supports a claim. Sections 3.2–3.4 follow that order. A judgment on formal designation, a ministry's consultation draft, and an enacted condition carry different legal weight.

No empirical dataset, human participants, or confidential materials were used. The proposed HCG framework is therefore a normative model derived from doctrinal comparison rather than an empirically validated decision rule. Its purpose is to structure legal reasoning and evidentiary practice, not to assign numerical authorship or inventorship scores.

During preparation of this manuscript, a generative AI system was used to assist with language organization and development of an initial draft. The legal authorities, citations, comparative claims, and normative analysis were subsequently reviewed and revised by the author. The use of AI in manuscript preparation does not form part of the legal dataset analyzed in the study.

3. Findings

3.1. Human Contribution Is Already a Gatekeeper, Even When the Law Does Not Name It

The comparative materials reveal that human contribution already functions as a gatekeeper in conventional IP law. Copyright generally begins with an author, and patent law begins with an inventor or inventors. AI makes the gate visible because it creates situations in which valuable output exists but no human can easily be identified as the direct source of every expressive or technical element. The result is a structural question that traditional doctrine often avoided: how much of the causal pathway from intention to result must remain human before the law attributes the result to a person?

In copyright, the relevant human contribution is normally expressive rather than merely economic or technical. A developer who writes the code of an AI model does not thereby become the author of every later output, just as the manufacturer of a camera does not become the author of every photograph. The user of a generative system may be an

author where the user's choices are expressed in the final work, but mere initiation of an automated process is weaker. Scholars disagree about what follows from using the tool. Denicola (2016) would assign authorship to the user who initiates computer-generated expression. Under an originality-based approach, the narrower claim depends on choices preserved in the final expression (Bridy 2012; Gervais 2020; Hugenholtz and Quintais 2021). Recent scholarship in Laws also treats AI-assisted and AI-generated works as requiring different attribution analysis rather than a single ownership rule (Gaidartzi and Stamatoudi 2025; Ramos-Zaga 2025).

Patent law uses different concepts but confronts the same attribution problem. Inventorship is tied to the human act of conceiving the claimed invention, not merely to financing the research, owning the machine, or supervising a project. The DABUS litigation showed that an AI system cannot simply replace the human inventor under prevailing statutory interpretations. Yet AI-assisted invention raises harder cases because conception may be distributed across problem definition, model configuration, candidate generation, experimental testing, and selection of the final technical solution. Recent U.S. guidance therefore treats AI as a tool while applying the same traditional inventorship standard to human participants (U.S. Patent and Trademark Office 2025).

The gatekeeper function should be distinguished from ownership. Copyright and patent systems routinely allow ownership to diverge from authorship or inventorship through employment rules, assignments, commissions, statutory presumptions, or contractual transfers. Investment can justify allocation of economic rights, but investment alone does not necessarily establish the identity of the author or inventor. This distinction becomes crucial in AI development, where the system developer, model owner, user, employer, and data provider may all invest resources without each making the legally relevant creative or inventive contribution (Miernicki and Ng 2021; Saw and Chan 2023).

The same distinction applies to substantive protectability. Human contribution can identify an author, but an author-created work may still fail originality. Human contribution can identify an inventor, but an inventor-created claim may still be anticipated, obvious, insufficiently disclosed, or non-patentable subject matter. A gatekeeper that conflates attribution with protectability risks weakening the independent screening functions of copyright and patent law.

3.2. Where Does the Law Decide Whose Contribution Counts?

Vietnam's 2026 framework creates an unusually explicit dual-IP structure. The foundation is Article 6(5) of the IP Law, inserted by Article 1(2) of Law No. 131/2025/QH15, which added a statutory authorization for the Government to regulate how IP rights arise or are established when protected subject matter is created using AI systems. This provision is important because it avoids attempting to define all AI attribution rules at the level of the primary statute. Instead, the implementing decrees specify different contribution standards for copyright and industrial property (National Assembly of Vietnam 2025). The Government's October bill submission identified AI and digital assets as gaps in industrial-property protection and proposed conditional access to published material for training. It linked those changes to exploitation of IP assets (Government of Vietnam 2025, Parts I.2 and IV.3; Government News 2025). The specific contribution criteria emerged in the implementing texts. The February copyright draft used a final-decision example. The enacted provision added original inputs or software-design documentation and specified that the result must reflect the person's idea. The draft explanatory table linked direct human control to the pre-existing author rule in Article 12a (Ministry of Culture, Sports and Tourism, Vietnam 2026; Copyright Office of Vietnam 2026b).

3.2.1. Statutory Attribution in Vietnam

Article 4 of Decree No. 134/2026/ND-CP inserted Article 5a into Decree No. 17/2023/ND-CP. Rights in works, performances, sound recordings, video recordings, and broadcasts created, fixed, or performed with the use of AI arise only when the statutory conditions are satisfied. Article 5a(1)(a) requires a significant and decisive contribution to creating the work or to fixing or carrying out the performance, recording, or broadcast. The provision then lists forms of relevant participation: supplying original inputs or technical parameters, developing design materials for software, constructing prompts or instructions, evaluating and selecting AI output, editing or intervening in the output, arranging content or expression, making artistic, aesthetic, or professional decisions, and deciding the final result so that it reflects the person's idea rather than random or automatic algorithmic arrangement (Government of Vietnam 2026b).

The copyright rule does more than identify creative acts. It also requires the human participant to assume responsibility for the content and legality of the AI-assisted subject matter and requires that protected materials used as AI inputs not be prejudiced in violation of copyright or related rights. The decree further states that wholly AI-generated products, or products that fail any condition in Article 5a(1), do not give rise to copyright or related rights. The model therefore combines attribution, responsibility, and a legality condition in a single gatekeeping provision.

Article 5a(1) requires all three lettered conditions. Within point (a), bao gồm ('including') introduces acts as different as designing software and choosing a final arrangement. A sound engineer need not design software to exercise artistic judgment over a recording. The better reading is an illustrative list within a mandatory threshold, although the text does not expressly declare the list open or authorize disregard of the stated threshold. Control is relevant to final determination in point (a) and expressly appears as evidence in paragraph 8(c). The Copyright Office emphasizes direct control, and Do et al. (2026) describe effective control as a central element. Neither the enacted text nor the Office's explanation lists it as a fourth condition in addition to contribution, responsibility, and respect for input rights (Copyright Office of Vietnam 2026a).

3.2.2. Technical Contribution and Inventor Designation

Article 15 of Decree No. 100/2026/ND-CP inserted Article 10a into Decree No. 65/2023/ND-CP for inventions, industrial designs, and layout designs created with AI assistance. Industrial-property rights may be established only where humans make a significant contribution, and a human satisfying that requirement is treated as the author for purposes of Article 122 of the Intellectual Property Law. Article 10a(2) uses toàn bộ các hoạt động sau ('all of the following activities'). The four specified activities are defining the problem in a manner that includes an idea of the solution; selecting input data, objectives, constraints, and parameters based on human creative ideas rather than merely accepting automated suggestions; evaluating, selecting, refining, testing where applicable, and interpreting AI output, with refinement changing the core structure or function to create new value; and deciding the final result for which protection is sought (Government of Vietnam 2026a).

The industrial-property provision is narrower and more process-oriented than the copyright rule. It reflects the logic of technical conception: a legally relevant human must do more than state a general problem, must shape the search space, must critically engage with the generated result, and must make the final technical choice. The requirement that refinement alter core structure or function also attempts to distinguish substantive inventive participation from routine verification. This is a significant effort to operationalize inventorship in an AI-assisted process. The January consultation draft already used 'all' and

required refinement to change core structure or function. Its Article 14 became Article 15 at promulgation. The final Article 10a(3) also changed the actor entitled to use an unprotected result from the 'owner' in the draft to the 'person who created it' (Ministry of Science and Technology 2026).

However, the requirement that the human perform all four activities can create under-inclusiveness. Real research is collaborative. One scientist may identify the problem, another may design the constraints, a third may evaluate model output, and a fourth may validate the final result. Conventional patent law can recognize joint inventorship where contributions are distributed. A rule framed around one person performing every step may therefore need to be read collectively across multiple human contributors. Otherwise, sophisticated team-based AI research could paradoxically have more difficulty satisfying the contribution gate than a simpler single-user workflow. Table 1 summarizes the two sets of requirements.

Table 1. Vietnam's 2026 human-contribution rules for subject matter created using AI.

Dimension	Copyright and Related Rights	Industrial Property
Legal source	Decree 17/2023, Art. 5a, inserted by Art. 4 of Decree 134/2026	Decree 65/2023, Art. 10a, inserted by Art. 15 of Decree 100/2026
Threshold	Significant and decisive human contribution	Significant human contribution
Core human acts	Original inputs/parameters; prompting; evaluation and selection; editing/intervention; arrangement; artistic/professional decisions; final determination	Problem definition including solution idea; selection of data, objectives, constraints, and parameters; evaluation, refinement, testing, and interpretation; final determination
Additional conditions	Human responsibility for content and legality; no prejudice to rights in protected inputs	Refinement must change core structure or function to create new value
Effect of failure	Wholly AI-generated or insufficiently human output does not give rise to copyright/related rights	No grant under Art. 10a(1)–(2). Use or permission to use remains subject to others' lawful interests.
Primary legal function	Creation, fixation, or performance assessed first. Chapter III allocates ownership.	Direct creator identified under IP Law Art. 122(1). Establishment of rights still requires a grant.

Source: Author's synthesis of Government of Vietnam (2026a, 2026b).

3.2.3. Choices Embodied in Expression

Burrow-Giles illustrates why the instrument matters. Sarony selected Wilde's pose, costume, lighting, and setting, and those decisions appeared in the photograph (United States Supreme Court 1884, pp. 59–60). For an image generator, the counterpart is the position or lighting the user actually determines in the image. Asking for 'a dramatic portrait' leaves both to the model. Feist adds a low but real creativity threshold even if the compiler did the work (United States Supreme Court 1991, pp. 345–51). Aalmuhammed's joint-authorship analysis adds another question: the consultant who supplied dialogue to Malcolm X lacked control over the film as a whole and the requisite evidence of shared

authorship (United States Court of Appeals for the Ninth Circuit 2000, pp. 1233–35). That inquiry allocates authorship among humans. It supplies no general rule that whoever controls a model owns its output.

The United States has moved from a general human-authorship principle toward a more operational contribution analysis. The U.S. Copyright Office's 2025 report concludes that existing copyright law can accommodate AI-assisted creation without creating a new right for fully AI-generated output. The critical question is whether a human author determined sufficient expressive elements. Human-authored material that remains perceptible, creative selection or arrangement, and sufficiently creative modification can qualify. By contrast, mere prompting under currently available generative systems generally does not give the user enough control over the resulting expressive details (U.S. Copyright Office 2025).

EU copyright law does not contain a single AI-specific authorship rule. Instead, the Court of Justice has harmonized originality through the concept of the author's own intellectual creation. Free and creative choices and the expression of the author's personality are central features of the case law (Court of Justice of the European Union 2009, 2011, 2012, 2019). Hugenholtz and Quintais argue that this framework is capable of protecting many AI-assisted outputs because creative choices can occur in conception, execution, selection, arrangement, and redaction, but wholly machine-determined expression falls outside the ordinary human-authorship paradigm (Hugenholtz and Quintais 2021).

Football Dataco isolates what must be proved. The labor of making fixture data did not establish copyright in the database. Original selection or arrangement could suffice, but rules or constraints that left no room for creative freedom could not (Court of Justice of the European Union 2012, paras. 32–42). A model that chooses the spatial relations in an image leaves the user without authorship of those relations merely by virtue of requesting a subject. A user who masks and recomposes a figure against a new background may, however, determine an original arrangement. The analogy concerns the location of expressive choice. The CJEU neither assessed AI nor held that every machine-selected detail is dictated by a technical constraint.

Australia draws a similar distinction by a different route. IceTV tested whether the parts taken from a television schedule reproduced a substantial part of its original expression. Labor spent deciding when to broadcast programs did not establish originality in the times and titles copied (High Court of Australia 2009, paras. 28–33, 47–54). In Telstra, preparing listings was distinct from authoring the directories that software assembled (Full Court of the Federal Court of Australia 2010, paras. 82–90). For a generative system, preparing a dataset similarly does not establish authorship of a resulting image. Unlike a directory assembled under rules, the image may incorporate a user's later redrawing. Its provenance must be examined at that level.

3.2.4. Conception and the Formal Naming of an Inventor

In U.S. patent law, the Federal Circuit held in Thaler v. Vidal that the statutory term 'inventor' refers to a natural person, rejecting designation of DABUS as inventor (United States Court of Appeals for the Federal Circuit 2022). The more important development for ordinary AI-assisted research is the USPTO's revised 2025 guidance. The Office rescinded its earlier AI-specific guidance and stated that the same inventorship standard applies regardless of whether AI was used. Only natural persons can be named inventors, and AI is treated as a tool. The inquiry therefore remains whether a natural person made the legally relevant contribution to conception of the claimed invention (U.S. Patent and Trademark Office 2025).

The EPO's J 8/20 and J 9/20 concerned designation under the EPC. T 0528/25 concerned a divisional application in which the form named Thaler but the addendum attributed

conception to DABUS. The incompatible statements left no clear designation under Article 81 and Rule 19 EPC. The Board accepted that a human can in principle be designated for an AI-assisted invention. It did not prescribe a four-act test for conception (European Patent Office 2021, 2026, Reasons 1.6 and 2).

The United Kingdom Supreme Court reached the same practical result in Thaler v Comptroller-General of Patents, Designs and Trade Marks. It held that DABUS was not an inventor within the Patents Act 1977 and that ownership of the machine did not independently establish Dr. Thaler's entitlement to apply for the patents (Supreme Court of the United Kingdom 2023). This demonstrates the importance of separating inventor status from ownership or control of the AI system.

Australia briefly appeared to offer a broader path when a Federal Court judge held that an AI system could be an inventor under the Patents Act. The Full Court reversed that decision, restoring the natural-person interpretation and emphasizing the statutory and historical structure of patent entitlement (Full Court of the Federal Court of Australia 2022). The episode confirms that legal recognition of AI inventorship is not necessary to protect AI-assisted inventions; the more immediate issue is how human contribution is identified when AI operates as part of the inventive process (Liberman 2022).

3.3. What Protection Remains Without a Qualifying Human Author or Inventor?

3.3.1. Arrangements and Investment

The judicial rule remains categorical at the outer boundary. In Thaler v. Perlmutter, the D.C. Circuit held that a non-human machine cannot be the recognized author of a work under the Copyright Act when the application identifies the machine as sole author. The Supreme Court's denial of certiorari in 2026 left that holding in place (United States Court of Appeals for the District of Columbia Circuit 2025; Supreme Court of the United States 2026). Yet the case did not decide how much human involvement is sufficient in ordinary generative-AI workflows. The administrative guidance therefore performs much of the gatekeeping work in practice.

The United Kingdom remains structurally unusual because Section 9(3) of the Copyright, Designs and Patents Act 1988 attributes authorship of a computer-generated literary, dramatic, musical, or artistic work to the person who undertakes the arrangements necessary for its creation. This provision shows that a legal system can allocate authorship without proving traditional human creation. However, the UK Government's 2026 report on copyright and AI states that most respondents to the questions on computer-generated works supported removing special protection for wholly AI-created works while retaining ordinary protection for AI-assisted human works. The Government emphasized that copyright should encourage and reward human creativity and proposed continued monitoring, with removal of the special protection if evidence does not justify its continuation (UK Government 2026). Section 178 defines a computer-generated work by the absence of a human author (United Kingdom 1988; Guadamuz 2017).

U.S. law provides no equivalent route for a machine-only work. Reid explains the narrower U.S. route to statutory authorship: directing a commissioned sculpture did not make its independent contractor an employee. The work-for-hire rules in 17 U.S.C. §§ 101 and 201(b) allocate qualifying human-made work and do not cure a lack of human creation (Supreme Court of the United States 1989, pp. 751–53; United States Court of Appeals for the District of Columbia Circuit 2025).

The UK experience is important for gatekeeping theory. A rule can solve attribution by legal fiction, but attribution alone does not establish that granting exclusive rights is justified. Vietnam's contribution-based approach moves in the opposite direction: it conditions rights on human participation rather than attributing authorship to the person

making arrangements. The contrast supports keeping human contribution analytically separate from investment and ownership.

EU law sometimes protects the investment directly. A phonogram producer has rights in the fixation and a broadcaster in its broadcast under Directive 2006/115/EC, Articles 7–9 (European Union 2006). Article 15 of Directive (EU) 2019/790 protects press publishers against specified online uses of press publications by information society service providers, with exclusions including hyperlinks and very short extracts (European Union 2019). Such rights attach to defined objects and uses. They give a producer or publisher no general right over machine-generated text or musical expression. In Australia too, failure of copyright in a literary work leaves a separate question about rights in a sound recording or broadcast under Part IV of the Copyright Act 1968 (Australia 1968).

3.3.2. Fixation, Performance, and the Holder of Related Rights

Vietnam applies Article 5a(1) to all five categories it names. Paragraph 3 identifies the author of a work. Paragraph 4 reserves performers' rights to individuals who personally perform through their own artistic acts. Paragraph 5 refers ownership back to Chapter III of the IP Law. Thus a studio that finances an AI-assisted recording may hold the producer's rights under Article 44 even though an engineer supplied the decisive human contribution to fixation. Conversely, a studio that merely pays to generate and export an unattended synthetic track cannot rely on its expenditure alone to satisfy Article 5a(1)(a). A human engineer's choice of takes, timing, and mix may support the fixation right without making the engineer the author of the underlying music or the performer of a synthetic voice.

This requirement changes the entry point for an investment-based right. Article 44(1)(b) ordinarily asks who invested time, finance, and technical resources in making the recording, subject to contrary agreement. In an AI-assisted fixation, paragraphs 1, 2, and 9 of Article 5a first require qualifying human acts and the other statutory conditions. A broadcaster must likewise distinguish the human decisions by which its broadcast was made from authorship of the program transmitted. Reading professional choices about fixation as relevant gives effect to Article 5a without importing the originality test for a musical work into the producer's right (Office of the National Assembly 2026, Arts. 16, 17, 30, 31, 44).

On the patent side, the U.S., UK, Australian, and EPC decisions concern applications naming a machine or failing to identify a qualifying human inventor. Ownership of the machine did not supply the missing source of entitlement in the UK. Vietnam specifies a further consequence: under Article 10a(3), the creator may use or permit others to use the result, subject to others' lawful rights and interests. This permission confers no patent monopoly. Article 10a(4) leaves trademarks, trade names, geographical indications, and trade secrets to their ordinary protection conditions. Table 2 compares the copyright approaches discussed above.

Table 2. Comparative copyright approaches to contribution and protection without a human author.

Jurisdiction	Human-Centered Rule	Operational Indicators	Treatment of Low/No Human Contribution
United States	Human author must determine sufficient expressive elements	Human-authored material; selection/arrangement; creative modification; prompts usually insufficient alone	Machine-only output not copyrightable

Table 2. *Cont.*

Jurisdiction	Human-Centered Rule	Operational Indicators	Treatment of Low/No Human Contribution
European Union	Author's own intellectual creation through free and creative choices	Conception, execution, selection, arrangement, redaction; case-specific	Wholly machine-determined expression generally outside ordinary copyright
United Kingdom	Ordinary works remain human-centered; legacy s. 9(3) rule for computer-generated works	Necessary arrangements under legacy rule; human creative contribution for ordinary works	Special CGW protection under policy reconsideration
Australia	Identifiable human authorship and intellectual contribution	Human skill, judgment, and relevant creative contribution	Automated/corporate production without identified human authorship may fail
Vietnam	Significant and decisive human contribution	Contribution to creation, fixation, or performance. Final choice is evidence of control.	No copyright/related rights for fully AI-generated or insufficiently human output
China	Case-specific originality	Prompts, adjustments, and selection in Li v. Liu	The particular image qualified. The holding depends on the choices proved.
Japan	Creative intention and contribution	Content of instructions, revised trials, and later creative edits	Autonomous output falls outside ordinary copyright under the guidance.

Source: Author's comparative synthesis.

3.4. What Must the Claimant Show?

3.4.1. Registration, Enforcement, and Proof of Creative Choices

Vietnam distinguishes three occasions for proof. Copyright subsistence does not depend on registration (IP Law, Arts. 6 and 49(2)). An applicant who does register AI-assisted subject matter must include a declaration from the direct creator, fixer, or performer and describe the use of AI (Decree 17, Art. 39a(4)(h), as amended). When protection is sought, Article 5a(7) requires proof of the person's own acts and truthful disclosure of AI use when requested by the competent authority. Article 5a(8) gives examples of documents that may suffice. By contrast, U.S. registration practice asks applicants to identify human-authored material and disclaim more-than-de-minimis generated content (U.S. Copyright Office 2023, pp. 16192–93).

For EU database copyright, a pair of proposed and final layouts can identify a choice left open by the constraints in Football Dataco. For ordinary Australian literary copyright, an editor's redline can link the editor to the arrangement in a way a list of staff names cannot (Full Court of the Federal Court of Australia 2010). For a UK Section 9(3) claim, commission instructions and generation arrangements would address a different issue, namely who undertook the necessary arrangements. These are examples of evidence directed to the issue each system asks, not mandatory filing documents in all three systems.

3.4.2. Proving Contribution to the Claimed Invention

This approach preserves doctrinal simplicity but leaves significant evidentiary questions to existing conception doctrine. In complex workflows, a human may define the research problem and constraints while the AI proposes the claim-defining technical solution. Another human may validate that solution experimentally. Determining which

participant conceived the claimed subject matter can be difficult without process records. Vietnam's 2026 rule is more prescriptive because it identifies problem definition, parameter selection, refinement, and final decision as mandatory activities for inventions, industrial designs, and layout designs.

Vietnam's administrative distinction matters here. The industrial-property office publishes application forms under Circular 10/2026/TT-BKHCN, as amended (IP Office of Vietnam 2026). An inventor's name on a form does not establish what that person contributed under Article 10a(2). For the latter, a dated sketch of the solution, chosen constraints, competing structures, and the change embodied in the claim address the four activities. The USPTO ordinarily presumes the named human inventors are correct. It applies ordinary conception doctrine to each claim and does not require the Vietnamese four-stage showing (U.S. Patent and Trademark Office 2025, pp. 54636–37). Table 3 summarizes the patent-law approaches to inventorship and proof.

Table 3. Comparative patent-law approaches to inventorship and its proof in AI-assisted research.

Jurisdiction	AI as Inventor?	Human Contribution Approach	Main Unresolved Issue
United States	No	Traditional conception standard applies; AI treated as tool	How conception is proven in distributed human-AI workflows
EPO/EPC	No	Natural-person designation required	Contribution threshold for AI-assisted conception remains largely case-specific
United Kingdom	No	Human inventor required under Patents Act	How AI-assisted technical generation affects identification of actual deviser
Australia	No under Full Court authority	Natural-person inventor in existing statutory framework	Operational test for collaborative AI research
Vietnam	No; human with significant contribution is treated as author/inventor	Four cumulative activities expressly defined	Rigidity, team contributions, and relationship to inventive step

Source: Author's comparative synthesis.

3.4.3. Prompting and Selection in China and Japan

In Li v. Liu, the Beijing Internet Court examined the claimant's sequence of prompts, parameter changes, and selection of a portrait, and found intellectual input reflected in the particular image (Beijing Internet Court 2023). Japan's Agency for Cultural Affairs identifies creative intention and contribution. Repeated attempts alone show little, while revised instructions tied to observed results or a person's own later additions may support authorship (Agency for Cultural Affairs 2024, pp. 16–17). Together these sources explain why the same twenty prompts may be persuasive in one file and uninformative in another. Vietnam enumerates acts before a dispute arises; the Chinese judgment and Japanese guidance ask what the choices actually produced.

3.5. Four Comparative Findings

Four broader findings emerge from the comparison. First, legal systems are converging on human centrality without converging on a uniform operational threshold. The United States increasingly uses administrative guidance; the EU relies on general principles of creative choice; the UK combines a legacy computer-generated-work fiction with renewed

human-centered policy; and Vietnam has adopted detailed statutory criteria. The regulatory disagreement is therefore less about whether humans matter than about how human contribution should be evidenced and measured.

Second, copyright and patent law are moving toward process evidence. The final output alone may not reveal who contributed what. Prompt histories, version records, model inputs, parameter choices, editorial modifications, experimental records, candidate-selection decisions, and validation steps can become legally relevant. Vietnam's 2026 rules make this evidentiary orientation explicit. Comparable documentation is also increasingly important under U.S. administrative approaches, even if not mandated in the same form.

Third, contribution is not the same as control. A user may exercise high-level control over a project while delegating most expressive or technical decisions to an AI system. Conversely, a human may make a narrow but decisive contribution—such as selecting and substantially transforming one machine-generated candidate—even without controlling the entire generation process. A useful gatekeeper must therefore ask which human acts are legally significant rather than merely who initiated, owned, or supervised the system. Article 5a(8)(c) makes control probative in Vietnam: the pertinent control is over the fixation or expressive result actually claimed.

Fourth, a single threshold should not be mechanically transplanted across IP categories. Copyright protects expression and therefore emphasizes expressive choice, arrangement, and final form. Patent law protects technical inventions and therefore emphasizes problem-solution conception, technical constraints, refinement, and claim-defining decisions. A cross-IP framework can identify common dimensions, but the weight and evidence attached to each dimension must remain domain-specific.

4. Discussion

4.1. A Human Contribution Gatekeeper Framework

The comparative findings support a Human Contribution Gatekeeper (HCG) structured around four dimensions: origination; direction and constraint-setting; transformation, evaluation, or validation; and final determination and responsibility. The HCG is not intended as a numerical score. It is a sequence of questions designed to make the attribution inquiry transparent while preserving flexibility across technologies and IP categories. Its added value is an order of inquiry. First isolate the expression, fixation, or claim feature for which protection is sought. Next link a named person's act to that feature, using the four dimensions to locate evidence. Then apply the governing attribution rule and record what, if anything, can be attributed. Only then test originality or patentability and allocate ownership. The HCG changes neither the claimant's legal burden nor the weight national law assigns to an act. A detailed log cannot supply a missing creative choice. Table 4 sets out the four dimensions and the evidence relevant to each.

Table 4. Proposed Human Contribution Gatekeeper (HCG).

Dimension	Copyright Indicators	Patent/Industrial-Property Indicators	Illustrative Evidence
1. Origination	Original source material; expressive plan; composition; concept with identifiable expressive direction	Technical problem plus solution idea; research hypothesis; non-trivial technical objective	Drafts; notes; source files; research records; dated project documents

Table 4. *Cont.*

Dimension	Copyright Indicators	Patent/Industrial-Property Indicators	Illustrative Evidence
2. Direction and constraint-setting	Prompts; reference choices; style/format constraints; iterative instructions	Input data; technical parameters; objectives; design constraints; model configuration	Prompt logs; parameter files; model settings; data-selection records
3. Transformation/evaluation/validation	Selection; editing; arrangement; integration; substantial revision	Candidate evaluation; refinement; testing; interpretation; structural or functional changes	Version histories; edits; experimental notebooks; test results; comparison records
4. Final determination/responsibility	Decision on final expressive form and publication; responsibility for legality	Decision on final technical solution and claimed subject matter; responsibility for accuracy and legality	Approval records; final file history; patent drafting records; declarations

The dimensions are flexible indicators, not a mechanical point system.

4.1.1. Dimension One: Origination

Origination asks whether the human participant supplied a legally meaningful creative or technical starting point rather than merely requesting an abstract result. In copyright, origination may consist of original source material, a sufficiently specific expressive plan, a composition, or a detailed conceptual structure. In patent law, it may consist of identifying a technical problem together with an idea or pathway for solving it. Vietnam's industrial-property rule is particularly strong on this point because it rejects a merely general description of the problem and requires an idea of the solution. This dimension filters out cases in which a user simply asks the AI to 'make something new' or 'solve this problem' without contributing to the direction of the result.

4.1.2. Dimension Two: Direction and Constraint-Setting

Direction examines how the human shaped the machine's search or expressive space. Relevant actions can include selecting input data, choosing parameters, setting goals and constraints, constructing iterative prompts, supplying reference materials, defining technical boundaries, or determining aesthetic and professional requirements. The legal significance of prompting depends on what the prompt does. A short descriptive prompt may exert little control over expressive detail, while an extended sequence of technically informed constraints may strongly shape the result. This explains why categorical statements that 'prompts are never authorship' or 'prompts always prove authorship' are both unsatisfactory.

4.1.3. Dimension Three: Transformation, Evaluation, or Validation

The third dimension asks whether the human critically engaged with machine-generated candidates. In copyright, relevant acts include selecting among outputs, combining elements, revising text, editing images, arranging material, or adding human-authored content. In patent law, relevant acts include evaluating candidates, changing technical structure or function, testing hypotheses, interpreting experimental results, and rejecting machine suggestions that do not satisfy the technical objective. This dimension is particularly important because generative systems often produce multiple plausible outputs. The act of identifying which output matters, and why, can itself embody human judgment.

4.1.4. Dimension Four: Final Determination and Responsibility

The final dimension asks whether a human decided that the result should be adopted, claimed, published, or otherwise presented as the protected subject matter, and whether that person can assume legal responsibility for the decision. Final selection alone should not automatically establish authorship or inventorship; otherwise, pressing an 'accept' button would become a universal path to rights. But final determination can confirm attribution when combined with meaningful participation in the earlier dimensions. Vietnam's copyright rule goes further by expressly connecting human participation with responsibility for content and legality. That connection is normatively attractive because exclusive rights should not be separated entirely from accountable human decision-making.

4.2. The Gatekeeper Must Be Separate from Originality, Inventive Step, and Ownership

The most important limitation on the HCG is conceptual. Passing the contribution gate should not automatically produce an IP right. It establishes only that there is a human participant to whom authorship or inventorship can plausibly be attributed. The protected subject matter must still satisfy the independent substantive requirements of the relevant IP regime.

In copyright, this means that a human can contribute significantly to an AI-assisted output and still fail originality if the final expression is copied, dictated by technical constraints, or otherwise below the jurisdiction's creativity threshold. Conversely, an output may appear novel or aesthetically sophisticated but still lack a qualifying human author under a human-centered regime. Treating contribution as a separate gate makes this distinction explicit and prevents originality from being used as a disguised authorship test (Hugenholtz and Quintais 2021; Ramos-Zaga 2025).

In patent law, the distinction is even clearer. A human can satisfy inventorship by contributing to conception, yet the claim may remain obvious to the person skilled in the art. AI can make technical search and optimization routine, potentially affecting inventive step independently of the identity of the inventor. The existence of a human inventor therefore cannot be used as evidence that the invention is non-obvious. This point is especially relevant to Vietnam, where the new Article 10a contribution test operates alongside the existing novelty, inventive-step, and industrial-applicability requirements.

Ownership is a third question. Once authorship or inventorship is identified, economic rights may belong to another person or organization under employment, commissioning, assignment, or statutory rules. The developer or owner of an AI system should not automatically own every output merely because of investment or control of the infrastructure. Nor should the end user automatically own every output merely because they entered a prompt. Ownership should follow the relevant IP allocation rules after the contribution gate has identified the human source of authorship or inventorship. Vietnam illustrates the distinction in an employment setting. Under Article 12a, the employee who directly creates the work is its author. Under Article 39, the assigning organization normally holds the Article 20 economic rights and the Article 19(3) publication right, unless agreed otherwise. For an invention, Article 122(1) identifies its direct creator, while Article 86 separately governs the right to apply, including for an organization investing under an assignment of work, subject to the statutory qualifications (Office of the National Assembly 2026).

4.3. Vietnam's Model: Strengths

Vietnam's reform has at least five significant strengths. First, it provides operational clarity. The decrees identify concrete forms of human activity rather than relying exclusively on abstract terms such as 'creativity' or 'inventorship'. This can improve predictability for creators, researchers, companies, registration authorities, and courts.

Second, the framework is evidence-oriented. Article 5a(7)–(8) expressly addresses proof for copyright and related rights. Article 10a identifies activities relevant to industrial-property claims without prescribing an equivalent list of records. In AI-assisted creation, such records may be the best evidence of authorship or inventorship. This is particularly important where the final output does not reveal the relative role of the human and the model.

Third, the framework avoids AI legal personhood. Rights are attached to human contribution without pretending that the AI system itself bears personality, reputation, responsibility, or legal duties. This is consistent with the dominant comparative approach and avoids difficult downstream questions about liability and exercise of rights (Gervais 2020; Igbokwe 2024).

Fourth, Vietnam regulates more than one IP field at the same time. Many international debates remain compartmentalized, addressing either copyright authorship or patent inventorship. The 2026 decrees reveal that the human-contribution problem is cross-cutting but domain-sensitive. This makes Vietnam a useful case study for attribution of rights in AI-assisted works and inventions.

Fifth, the copyright rule links rights to accountability. Requiring a human participant to assume responsibility for content and legality counteracts the temptation to claim rights in beneficial outputs while disavowing responsibility for harmful or unlawful ones. This principle could become increasingly important as AI systems generate content at scale.

4.4. Vietnam's Model: Risks and Required Clarifications

4.4.1. Cumulative Conditions May Be Too Rigid

Article 10a(2) makes the four activities cumulative; the words 'where applicable' qualify testing in point (c), not refinement or the list as a whole. An examiner should therefore identify where each act occurred, including what changed in the structure or function of the model's output. Article 122(1) recognizes two or more direct creators. It does not expressly say that the Article 10a activities may be pooled across them. The team reading proposed in Section 4.4.4 would reconcile those provisions; guidance or amendment is needed before applicants can rely on it.

The same concern arises in copyright if the listed creative acts are interpreted cumulatively. A photographer or designer may make decisive choices through selection, arrangement, and post-generation transformation without supplying original input data or technical parameters. The legal standard should therefore remain 'significant and decisive contribution', with the enumerated acts functioning as non-exclusive indicators. A mechanical checklist would reduce rather than improve doctrinal accuracy.

4.4.2. Input Legality Should Not Be Confused with Authorship

Article 5a(1)(c), read with paragraph 9, makes lack of prejudice to rights in protected inputs a condition of subsistence. Articles 37a–37c address the separate act of using protected material for research, experimentation, or training under IP Law Article 7(5). Article 37a requires lawful publication and access, no circumvention of protective measures, and non-commercial research, experimentation, or training that respects ordinary exploitation and the output market. Article 37b specifies how rights may be reserved and excepts uses meeting all of Article 37a. Article 37c requires technical and training records and provision of information on request. For commercial exploitation following training, paragraph 2 additionally provides for royalties from the time of use (Government of Vietnam 2026b).

A user who uploads an unlicensed protected illustration for restyling presents a direct input-right question under Article 5a(1)(c). A user who supplies only her own sketches to a general-purpose model presents a different question: can a disputed item in the developer's training corpus be linked to that output? The provision does not specify how far back that

inquiry runs. BSA's March submission objected to using market substitution by an output as a condition of lawful training; the final Article 37a(2)(c) retained that criterion (BSA|The Software Alliance 2026). The interpretive task is to identify the protected input and resulting prejudice before denying rights. The human acts that shaped the final illustration can be identified independently.

4.4.3. Evidence Rules Need Proportionality

Article 5a(6) refers visible labels and technical marking to AI legislation. A label can disclose use of AI but cannot identify the choices that shaped a particular recording. Paragraphs 7 and 8 address that separate proof: when protection is sought, the direct participant must substantiate the relevant activity, and must declare AI use truthfully when the competent authority asks. Paragraph 8 admits other lawful evidence, so its list does not require a complete prompt history in every file. Article 37c separately places record-keeping duties on qualifying users of training materials. Those duties address a different actor and purpose.

Possible evidence includes prompt histories, source files, version-control logs, experimental notebooks, model version identifiers, parameter records, human-authored input materials, records of rejected outputs, editing histories, and declarations from collaborators. For a claimant who remixed a recording, two dated mixes and a note identifying the edit may be more probative than the model's training corpus. Proportionate production should still comply with an authority's lawful request and with any applicable registration declaration.

4.4.4. Multiple Human Contributors Need an Allocation Rule

Article 12a(1) recognizes co-authors who directly create a work together intending to combine their contributions into a complete whole. Paragraph 2 excludes those who merely assist, give suggestions, or supply materials. Article 122(1) similarly recognizes persons who together directly create an invention, design, or layout design. The two provisions differ: Article 122(1) does not expressly import Article 12a's common-intention wording. For a patent team, the proposed reading would identify each person's direct contribution to the claimed feature, then check whether their collective acts cover Article 10a(2)(a)–(d). Paying for compute or routinely running tests would not fill a missing act or confer joint status.

This is preferable to assigning rights automatically to the person who owns or pays for the AI system. Financial and organizational investment remains relevant to ownership and commercialization, but it should not replace the attribution inquiry. A clear separation between contributor status and economic ownership also reduces the risk that powerful platform providers claim authorship or inventorship over outputs merely through terms of service.

4.5. A Three-Tier Application Model

For practical implementation, the HCG can be combined with a three-tier classification of AI use. Tier 1 is ordinary tool use: AI performs functions analogous to spelling correction, routine search, formatting, or non-creative technical execution. Such use should not trigger special attribution analysis because the human remains the obvious author or inventor. Tier 2 is collaborative generative use: the AI contributes non-trivial expressive or technical elements, but humans remain substantively involved in one or more HCG dimensions. This is the principal zone in which evidence of human contribution matters. Tier 3 is autonomous or near-autonomous generation: humans merely initiate the process, provide general goals, or accept outputs without legally meaningful intervention. Under human-centered systems, Tier 3 should not produce human authorship or inventorship merely because a person owns or operates the system.

The tiers should not be defined by a percentage of machine involvement. Quantifying creative or inventive contribution numerically would produce false precision. A 5% human intervention can be legally decisive if it supplies the claim-defining inventive concept; a 90% human workflow can remain legally trivial if the human activity is purely mechanical. The legal inquiry must therefore remain qualitative and connected to the protected subject matter.

Three Worked Applications

Illustration. An illustrator sketches a diagonal division between light and shadow and fixes a figure's silhouette. She feeds the sketch into a generator, rejects four backgrounds, and redraws a hand on a separate layer. The layered file links her to the silhouette, redrawn hand, and final composition. It does not link her to incidental textures supplied by the model. This is Tier 2. In the U.S., she can identify those human elements and disclaim the generated material as required. Vietnam can examine the same layers under Article 5a(1)(a), then address responsibility and input rights under (b) and (c). Unlike a prompt count or an all-or-nothing attribution of the image, the HCG specifies the scope of her claim.

Materials discovery. A proposes a porous electrode with a conductive shell and chooses a conductivity constraint. A model proposes a uniform shell. B replaces it with a graded shell to prevent cracking; A and B test and adopt that structure. C operates the test rig to instructions. For a claim to the graded-shell electrode, dated designs connect A and B to different claim features, while C's testing alone supplies no conception. Under U.S. joint-inventorship principles A and B may qualify if both contributed to conception of that claim. Under Article 10a(2), the team performed all four activities, including a change to core structure, but neither person performed them all alone. The HCG makes that divergence visible without resolving the Vietnamese team issue by assumption.

Compound validation. A model proposes compound X after a researcher supplies only a target receptor. The researcher makes X exactly as suggested and confirms its predicted binding. For a claim to X itself, the assay establishes performance; on these facts it identifies no human conception of the molecular structure. In Vietnam it also supplies neither a solution idea under Article 10a(2)(a) nor the core refinement under (c). For that claim the workflow is Tier 3. Change one fact: the researcher hypothesizes and substitutes a side chain, predicts improved selectivity, and claims the modified molecule. Even if this took only 5% of the project, the notebook can link her to the distinguishing feature. The claim moves to Tier 2; U.S. conception and Vietnam's remaining statutory activities still require separate assessment. Novelty and inventive step remain open in both systems.

4.6. Broader Comparative and International Implications

The HCG model suggests a path toward limited international convergence without requiring uniform rules on AI authorship. International law does not need to decide that AI systems are persons or authors. It can instead converge on a smaller set of principles: AI use does not by itself defeat IP protection; rights requiring authorship or inventorship must be anchored in legally relevant human contribution; mere ownership of an AI system is insufficient; and human contribution should be assessed separately from originality, inventive step, ownership, and infringement of input rights.

This approach is consistent with WIPO's cautious policy orientation, which has encouraged discussion of AI and IP without prescribing a single global solution (World Intellectual Property Organization [WIPO] 2020). It also fits the direction of recent U.S. and UK policy, which preserves protection for genuinely human AI-assisted creation while resisting exclusive rights for outputs lacking qualifying human authorship (U.S. Copyright Office 2025; UK Government 2026).

What can travel is the demand for a traceable human decision about a specified object. The Vietnamese list itself presupposes direct-creator rules, employer allocation, optional copyright registration, and grant-based protection for inventions. China's image judgment and Japan's guidance show how an examiner or court could use the evidentiary questions without adopting Vietnam's cumulative industrial-property rule. The investment question is less portable. TRIPS Article 14(2), CPTPP Chapter 18 (Arts. 18.58 and 18.62), and EVFTA Article 12.8 protect interests of phonogram producers. These provisions counsel against construing the Vietnamese condition to require a producer to compose the music in order to protect a fixation. Whether denying protection to an entirely automated fixation would meet Vietnam's treaty obligations remains a distinct question (World Trade Organization [WTO] 1994; CPTPP 2018; European Union and Viet Nam 2020).

At the same time, over-regulation should be avoided. Generative AI will become embedded in ordinary creative and research software. A rule that demands special disclosure or heightened proof whenever any AI function is used would rapidly become unworkable. Human-contribution regulation should target cases in which AI materially affects the elements for which IP protection is claimed. The objective is to distinguish meaningful human creation from machine substitution, not to stigmatize AI as a technology.

5. Conclusions

Generative AI has transformed human contribution from an assumed background fact into an explicit legal problem. Copyright and patent systems remain organized around human authors and inventors, yet contemporary AI can produce substantial expressive and technical content without humans specifying every relevant element. The central regulatory question is therefore not whether a human touched the process, but whether the human contribution is legally significant enough to justify attribution.

Among the jurisdictions examined, Vietnam states the gate expressly for both copyright and industrial property. Decree No. 134/2026/ND-CP requires significant and decisive human contribution for AI-assisted copyright and related rights, supplemented by responsibility and input-right conditions. Decree No. 100/2026/ND-CP requires significant contribution to AI-assisted inventions, industrial designs, and layout designs through defined activities of problem formulation, constraint selection, evaluation and refinement, and final decision-making. The resulting asymmetry matters: professional decisions about fixation can support a corporate producer's right, while validation of an unchanged technical candidate may leave Article 10a(2)(c) unsatisfied.

The comparative analysis nevertheless shows that a contribution rule should have a limited function. It is a gatekeeper for human attribution, not a replacement for originality, inventive step, ownership, or infringement analysis. The proposed Human Contribution Gatekeeper identifies four recurring dimensions—origination, direction and constraint-setting, transformation/evaluation/validation, and final determination/responsibility—while allowing different IP fields to weight those dimensions differently.

For Vietnam, guidance should distinguish proof of a direct creator's role from proof of an employer's or producer's title. For Article 5a, it should explain what links disputed training material to the claimed output. For Article 10a, it should state whether a team may collectively discharge all four activities and how each named contributor's direct role is established. A proportionate evidentiary practice for ordinary tool use would still have to respect Article 5a(6)–(8) and the declaration required for registration.

More broadly, the human-contribution gate provides a pragmatic alternative to the polarized choice between recognizing AI as an author or inventor and denying protection whenever AI plays an important role. Legal systems can retain human-centered IP while acknowledging that creation and invention are increasingly hybrid processes. The task

is not to measure how much of a work or invention came from a machine in the abstract. It is to identify the human decisions that the law considers sufficiently connected to the protected expression or technical concept to justify the attribution of exclusive rights.

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Abbreviations

AI	Artificial intelligence
CDPA	Copyright, Designs and Patents Act 1988 (UK)
CJEU	Court of Justice of the European Union
EPC	European Patent Convention
EPO	European Patent Office
HCG	Human Contribution Gatekeeper
IP	Intellectual property
USCO	United States Copyright Office
USPTO	United States Patent and Trademark Office

Appendix A. Vietnamese Provisions and English Translation

The Vietnamese column reproduces the signed texts, with line wrapping and outer quotation marks normalized. The English column is an unofficial translation for this article. In Article 5a(1), the reference to Article 6(1) is retained as enacted; the IP Law separately addresses the ordinary basis of related rights in Article 6(2). Tables A1 and A2 present the parallel texts.

Appendix A.1. Copyright and Related Rights

Table A1. Decree 134/2026/NĐ-CP, Article 4, inserting Article 5a into Decree 17/2023/NĐ-CP. Signed text, pp. 4–5 (Government of Vietnam 2026b).

Vietnamese Text	English Translation
Điều 5a. Việc phát sinh quyền tác giả, quyền liên quan trong trường hợp đối tượng quyền tác giả, quyền liên quan được tạo ra có sử dụng hệ thống trí tuệ nhân tạo	**Article 5a. Subsistence of copyright and related rights where subject matter of copyright or related rights is created using an artificial intelligence system**

Table A1. *Cont.*

Vietnamese Text	English Translation
1. Quyền tác giả, quyền liên quan đối với tác phẩm, cuộc biểu diễn, bản ghi âm, ghi hình, chương trình phát sóng trong trường hợp con người có sử dụng hệ thống trí tuệ nhân tạo để sáng tạo, định hình hoặc thực hiện chỉ phát sinh theo quy định tại khoản 1 Điều 6 của Luật Sở hữu trí tuệ khi đáp ứng đầy đủ các điều kiện sau:	1. Copyright and related rights in works, performances, sound recordings, video recordings, and broadcasts, where a human uses an artificial intelligence system to create, fix, or carry them out, arise under Article 6(1) of the Law on Intellectual Property only when all of the following conditions are met:
(a) Con người đóng góp đáng kể và mang tính quyết định vào việc sáng tạo tác phẩm, định hình hoặc thực hiện cuộc biểu diễn, bản ghi âm, ghi hình, chương trình phát sóng, bao gồm: Cung cấp dữ liệu đầu vào, tham số kỹ thuật mang tính nguyên gốc của mình hoặc xây dựng tài liệu thiết kế đối với chương trình máy tính; thiết lập các câu lệnh để điều khiển hệ thống trí tuệ nhân tạo; đánh giá, lựa chọn, chỉnh sửa, can thiệp hoặc diễn giải kết quả do hệ thống trí tuệ nhân tạo tạo ra; lựa chọn, sắp xếp, tổ chức nội dung, hình thức thể hiện đối tượng quyền tác giả, quyền liên quan; đưa ra các quyết định thể hiện ý đồ nghệ thuật, thẩm mỹ hoặc kỹ năng chuyên môn; quyết định kết quả cuối cùng, bảo đảm kết quả phản ánh đúng ý tưởng của mình thay vì sự sắp đặt ngẫu nhiên hoặc tự động của thuật toán;	(a) A human makes a significant and decisive contribution to creating the work or to fixing or carrying out the performance, sound or video recording, or broadcast, including providing their own original input data or technical parameters, or preparing design documentation for a computer program; setting prompts to direct the artificial intelligence system; evaluating, selecting, editing, intervening in, or interpreting the system's results; selecting, arranging, and organizing the content and form of expression of the subject matter; making decisions that express artistic or aesthetic intention or professional skill; and deciding the final result, ensuring that it accurately reflects the person's idea rather than a random or automatic arrangement by the algorithm;
(b) Con người chịu trách nhiệm về nội dung và tính hợp pháp của đối tượng quyền tác giả, quyền liên quan do mình tạo ra có sử dụng hệ thống trí tuệ nhân tạo;	(b) The human assumes responsibility for the content and lawfulness of the subject matter of copyright or related rights that they have created using an artificial intelligence system;
(c) Không gây phương hại đến quyền tác giả, quyền liên quan đối với các đối tượng được sử dụng làm dữ liệu đầu vào cho hệ thống trí tuệ nhân tạo.	(c) No prejudice is caused to copyright or related rights in the subject matter used as input data for the artificial intelligence system.
2. Đối tượng quyền tác giả, quyền liên quan được sáng tạo, định hình hoặc thực hiện theo quy định tại khoản 1 Điều này được bảo hộ quyền tác giả, quyền liên quan tương ứng nếu đáp ứng đầy đủ các điều kiện về bảo hộ quyền tác giả, quyền liên quan theo quy định của Luật Sở hữu trí tuệ.	2. Subject matter created, fixed, or carried out under paragraph 1 of this Article receives the corresponding copyright or related-rights protection if it meets all the conditions for that protection under the Law on Intellectual Property.
3. Người sáng tạo tác phẩm theo quy định tại khoản 1 Điều này được xác định là tác giả của tác phẩm được tạo ra có sử dụng hệ thống trí tuệ nhân tạo.	3. The person who creates a work under paragraph 1 of this Article is identified as the author of the work created using an artificial intelligence system.

Table A1. *Cont.*

Vietnamese Text	English Translation
4. Quyền liên quan của người biểu diễn theo quy định tại khoản 1 Điều này chỉ phát sinh đối với cá nhân trực tiếp thực hiện cuộc biểu diễn bằng hành vi nghệ thuật của mình.	4. Performers' related rights under paragraph 1 of this Article arise only for an individual who personally gives the performance through their own artistic acts.
5. Chủ sở hữu quyền tác giả, chủ sở hữu quyền liên quan đối với đối tượng quyền tác giả, quyền liên quan được sáng tạo, định hình hoặc thực hiện theo quy định tại khoản 1 Điều này là tổ chức, cá nhân theo quy định tại Chương III của Luật Sở hữu trí tuệ.	5. The owner of copyright or related rights in subject matter created, fixed, or carried out under paragraph 1 of this Article is the organization or individual specified in Chapter III of the Law on Intellectual Property.
6. Việc gắn nhãn hiển thị, đánh dấu kỹ thuật đối với đối tượng quyền tác giả, quyền liên quan được sáng tạo, định hình hoặc thực hiện theo quy định tại khoản 1 Điều này thực hiện theo quy định của pháp luật về trí tuệ nhân tạo.	6. Visible labelling and technical marking of subject matter created, fixed, or carried out under paragraph 1 of this Article are governed by the law on artificial intelligence.
7. Khi có yêu cầu bảo vệ quyền tác giả, quyền liên quan đối với đối tượng quyền tác giả, quyền liên quan được sáng tạo, định hình hoặc thực hiện có sử dụng hệ thống trí tuệ nhân tạo, người sáng tạo, định hình hoặc thực hiện đối tượng quyền tác giả, quyền liên quan phải chứng minh về việc sáng tạo, định hình hoặc thực hiện của mình và phải kê khai trung thực việc sử dụng hệ thống trí tuệ nhân tạo khi cơ quan có thẩm quyền yêu cầu.	7. When protection of copyright or related rights is sought for subject matter created, fixed, or carried out using an artificial intelligence system, the person who created, fixed, or carried it out must prove their own act of creation, fixation, or performance and must truthfully declare their use of the system when a competent authority requests it.
8. Tài liệu chứng minh quy định tại khoản 7 Điều này có thể bao gồm:	8. The evidence referred to in paragraph 7 of this Article may include:
a) Dữ liệu đầu vào, tham số kỹ thuật hoặc tài liệu thiết kế đối với chương trình máy tính, bản thảo, các bản trung gian, chỉnh sửa trong quá trình sáng tạo;	(a) Input data, technical parameters or computer-program design documentation, drafts, intermediate versions, and revisions made during creation;
b) Lịch sử câu lệnh, dữ liệu tương tác, tham số kỹ thuật;	(b) Prompt histories, interaction data, and technical parameters;
c) Tài liệu mô tả quá trình sáng tạo hoặc các tài liệu hợp pháp khác thể hiện sự đóng góp trí tuệ và sự kiểm soát của con người.	(c) Documentation describing the creative process or other lawful materials showing intellectual contribution and human control.
9. Trường hợp sản phẩm hoàn toàn do hệ thống trí tuệ nhân tạo tạo ra hoặc không đáp ứng đầy đủ các điều kiện quy định tại khoản 1 Điều này thì không làm phát sinh quyền tác giả, quyền liên quan theo quy định tại Luật Sở hữu trí tuệ.	9. A product generated entirely by an artificial intelligence system, or one that does not meet all the conditions in paragraph 1 of this Article, does not give rise to copyright or related rights under the Law on Intellectual Property.

Appendix A.2. Industrial Property

Table A2. Decree 100/2026/NĐ-CP, Article 15, inserting Article 10a into Decree 65/2023/NĐ-CP. Signed text, pp. 12–13 (Government of Vietnam 2026a).

Vietnamese Text	English Translation
Điều 10a. Quyền đối với đối tượng quyền sở hữu công nghiệp được tạo ra có sử dụng hệ thống trí tuệ nhân tạo	**Article 10a. Rights in industrial-property subject matter created using an artificial intelligence system**
1. Quyền sở hữu công nghiệp đối với sáng chế, kiểu dáng công nghiệp, thiết kế bố trí do con người sử dụng hệ thống trí tuệ nhân tạo để tạo ra chỉ được xác lập theo quy định tại điểm a khoản 3 Điều 6 của Luật Sở hữu trí tuệ nếu con người có đóng góp đáng kể vào việc sáng tạo ra các đối tượng đó.	1. Industrial-property rights in inventions, industrial designs, and layout designs created by humans using an artificial intelligence system may be established under Article 6(3)(a) of the Law on Intellectual Property only if humans have made a significant contribution to their creation.
Người có đóng góp đáng kể vào việc sáng tạo ra sáng chế, kiểu dáng công nghiệp, thiết kế bố trí khi sử dụng hệ thống trí tuệ nhân tạo để tạo ra các đối tượng đó thì được coi là tác giả theo quy định tại khoản 1 Điều 122 của Luật Sở hữu trí tuệ.	A person who makes a significant contribution to creating an invention, industrial design, or layout design using an artificial intelligence system is deemed to be an author under Article 122(1) of the Law on Intellectual Property.
2. Con người được coi là có đóng góp đáng kể vào việc sáng tạo ra sáng chế, kiểu dáng công nghiệp, thiết kế bố trí có sử dụng hệ thống trí tuệ nhân tạo trong trường hợp con người thực hiện toàn bộ các hoạt động sau:	2. Humans are deemed to have made a significant contribution to the creation of inventions, industrial designs, or layout designs using an artificial intelligence system where humans perform all of the following activities:
(a) Xác định vấn đề cần giải quyết, trong đó phải bao hàm cả ý tưởng về giải pháp, không chỉ là mô tả vấn đề chung chung;	(a) Defining the problem to be solved, which must include an idea for the solution and go beyond a general description of the problem;
(b) Lựa chọn dữ liệu đầu vào, mục tiêu, ràng buộc, tham số từ ý tưởng sáng tạo của con người, không chỉ dựa trên dữ liệu sẵn có hoặc gợi ý tự động từ hệ thống trí tuệ nhân tạo;	(b) Selecting the input data, objectives, constraints, and parameters on the basis of a human creative idea, without relying solely on existing data or automated suggestions from the artificial intelligence system;
(c) Đánh giá, lựa chọn, tinh chỉnh, thử nghiệm (nếu có) và diễn giải kết quả do hệ thống trí tuệ nhân tạo tạo ra, trong đó việc tinh chỉnh phải làm thay đổi cấu trúc hoặc chức năng cốt lõi của kết quả hệ thống trí tuệ nhân tạo để tạo ra giá trị mới;	(c) Evaluating, selecting, refining, testing (where applicable), and interpreting the result generated by the artificial intelligence system. The refinement must change the core structure or function of the system's result to create new value;
(d) Quyết định kết quả cuối cùng là sáng chế, kiểu dáng công nghiệp, thiết kế bố trí yêu cầu được bảo hộ.	(d) Deciding on the final result constituting the invention, industrial design, or layout design for which protection is sought.

Table A2. *Cont.*

Vietnamese Text	English Translation
3. Đối với sáng chế, kiểu dáng công nghiệp, thiết kế bố trí được tạo ra có sử dụng hệ thống trí tuệ nhân tạo không đáp ứng quy định tại các khoản 1 và 2 Điều này, người tạo ra có quyền sử dụng, cho phép người khác sử dụng sáng chế, kiểu dáng công nghiệp, thiết kế bố trí đó với điều kiện không xâm phạm quyền và lợi ích hợp pháp của các tổ chức, cá nhân khác.	3. For inventions, industrial designs, or layout designs created using an artificial intelligence system that do not satisfy paragraphs 1 and 2 of this Article, the person who created them may use them and permit others to do so, provided that this does not infringe the lawful rights and interests of other organizations or individuals.
4. Quyền sở hữu công nghiệp đối với nhãn hiệu, tên thương mại, chỉ dẫn địa lý, bí mật kinh doanh có sử dụng hệ thống trí tuệ nhân tạo để tạo ra được bảo hộ nếu đáp ứng các điều kiện theo quy định của pháp luật về sở hữu trí tuệ.	4. Industrial-property rights in trademarks, trade names, geographical indications, and trade secrets created using an artificial intelligence system are protected if they meet the conditions prescribed by intellectual property law.

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