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# Artificial Intelligence and Patent Law: Inventor Status and Ownership Rights

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**Abstract:** *The revolution of Artificial Intelligence (AI) has transformed innovation, raising fundamental questions of its place in patent law, most notably with respect to inventor status and rights of ownership. This paper takes a critical look at the intricacies of inventions generated by AI, probing the difficulties of assigning inventorship and establishing ownership in current legal schemes. Using a comparative examination of global legal approaches and an investigation of Indian patent law, the research seeks to explain the significance of AI in the intellectual property context. The study emphasizes the need for reforms in the law to fit the changing reality of technological innovation..*

**Keywords:** Artificial Intelligence, Patent Law, Inventor Status, Ownership Rights, Intellectual Property, Indian Patents Act, Legal Reform, AI-generated Inventions

## I. INTRODUCTION

Artificial Intelligence (AI) has grown beyond its early role as a support system, now acting in an active and autonomous capacity to generate new ideas and technologies. Across multiple domains—pharmaceuticals to engineering design—AI systems can process data, identify patterns, and develop solutions with little or no human interaction. This development has precipitated a critical realignment of how innovation is thought of and realized, especially in contexts where outputs by AI might pass as inventions. These developments force long-held assumptions in law, particularly in the area of patent law, to rethink their basis, which heretofore has placed primacy on human creativity and intentionality as requisite conditions for inventorship.Under existing patent systems, inventorship is in essence tied to intellectual contribution of a natural person. Statutory laws in the majority of jurisdictions identify an inventor as one who develops the inventive concept[1]. Yet, when AI systems create patentable inventions on their own—without explicit human intervention—these systems are severely constrained by such frameworks. The question becomes: if an AI system creates a new and non-obvious solution, who, if anyone, can be credited as the inventor? This paradox is not only theoretical; it has real-world consequences for innovation management, intellectual property rights, and overall commercialization of AI-produced technologies.Also, ownership of such inventions is a tricky issue. In the past, ownership of an invention is held by the inventor or can be given to an employer or organization as part of contractual agreements. In situations where an AI system is considered the originator, the lack of legal personhood for AI makes it more difficult to attribute these rights. With ongoing advances in AI, these legal and ethical issues identify a need to reexamine current frameworks in order to figure out how, and whether, they can integrate non-human inventors into current patent law.

### Research Questions

Can artificial intelligence systems be legally recognized as inventors under existing patent statutes?
How do various jurisdictions deal with the case of inventions generated by AI with respect to inventorship and ownership?
What are the consequences of AI-generated inventions on the conventional concepts of inventorship and ownership in patent law?

[1]Schuster, W. M. (2019). Artificial Intelligence and Patent Ownership. Washington and Lee Law Review, 75(4), 1945–1975.

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How does Indian patent law embrace or defy the consideration of AI as an inventor?

**Statement of The Problem**

The conventional patent law structure is basically based on the idea that invention is a product of human creativity. Legal regimes in jurisdictions identify inventorship according to the intellectual effort, intent, and ingenuity of a natural person. This anthropocentric approach presupposes that a human being will always be the driving force in any inventive activity. Yet, growing integration of Artificial Intelligence (AI) into research and development has already started to break this centuries-old legal norm. AI machines, especially machine learning and neural networks-based AI, can now generate new ideas, optimize designs, identify new compounds, and resolve complex problems by themselves. Such activities typically qualify as the legal standards of patentable inventions—novelty, non-obviousness, and utility—and raise essential questions regarding the award of inventorship.The crux of the matter is whether an AI, devoid of consciousness, legal personhood, and intent, can be considered an inventor under existing legislation. The majority of patent laws do not clearly provide for non-human inventors, and hence there is a legal void. Attempts to name AI as an inventor have been rejected in various jurisdictions, including the United States and Europe, based on the rationale that only natural persons can be named as inventors. This leads to uncertainty in cases where the human input is minimal or where the output of the AI cannot be traced to the intellectual input of any particular individual.The issue also goes beyond inventorship to the issue of ownership. If an AI cannot be legally a recognized inventor, then it becomes problematic to identify who owns the rights to the invention it comes up with. Should it be the creator of the AI, the person operating the system, or the sponsoring organization of the innovation? Without legal guidelines, claims of ownership are in jeopardy and may inhibit innovation along with making enforcement difficult. The lack of explicit statutory provisions governing AI-generated inventions puts inventors, businesses, and regulatory officials in limbo.

**Research Objectives**

- To critically review the notion of inventorship under patent law and assess whether the existing legal paradigms are capable of adjusting to accommodate non-human actors such as AI as inventors.
- To review and compare how different jurisdictions (i.e., the United States, European Union, India, etc.) handle the problem of inventions created by AI in terms of inventorship and rights of ownership.
- To examine the legal, ethical, and philosophical ramifications of awarding inventorship rights to AI systems within the intellectual property law framework.
- To evaluate the challenges and uncertainties in the Indian Patents Act, 1970, concerning AI-generated inventions and recommend appropriate reforms or amendments.
- To investigate and recommend a framework for establishing ownership of AI-generated inventions, involving the roles of developers, users, and organizations that operate the AI systems.

## II. LITERATURE REVIEW

The intersection of artificial intelligence (AI) and patent law has become a rising field of academic and legal discussion as AI systems increasingly contribute to innovation. A substantial part of the literature examines the conflict between new technological possibilities and the restrictions of existing legal regimes. Scholars, legal professionals, and policymakers have presented various perspectives regarding how patent law must change—or whether it can at all—given the evolving nature of invention during the age of AI.

**Schuster (2019)** presents a strong case based on economic theory, arguing that permitting entities using AI to patent inventions made by AI is beneficial to innovation and in accordance with the rules of economic efficiency. Under this approach, as long as the invention is novel, has an inventive step, and is industrially applicable, the process of making it should not exclude it from protection. Schuster is insistent that withholding patent protection for inventions developed by AI may disincentivize investment in AI-driven R&D and hamper development.Legal institutions, on the contrary, have had a stiff position based on traditional definitions of inventorship. The European Patent Office (EPO) and United Kingdom Intellectual Property Office (UKIPO), for example, have dismissed requests citing AI systems like DABUS as inventors. These organizations contend that inventorship according to existing laws necessitates a natural person,

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which is an anthropocentric perspective of intellectual contribution. The EPO specifically has reaffirmed that the intent behind the legal requirement for identification of an inventor is to recognize the personal rights of human inventors and to satisfy formal requirements, which cannot be fulfilled by non-human entities.

The stance in the United States has also resonated this interpretation. The USPTO and federal courts have also held that only natural individuals may be inventors, a position reaffirmed in **Thaler v. Vidal(2022),** in which the court held that the statutory language of the U.S. Patent Act does not allow AI systems to be named as inventors. This case has emerged as a reference point in current worldwide debates regarding AI and patent law.In India, the law is uncertain. **The Patents Act, 1970**[2]**,** does not offer a specific definition or position in relation to inventions created by AI. Accordingly, there is no express provision for acknowledging AI as an inventor. Indian patent law does not squarely exclude AI inventorship, nor does it provide for it, leaving the matter in a state of uncertainty in law. Researchers and practitioners in India have expressed unease regarding the absence of a guidance, which can potentially jeopardize the adaptation of the nation to technological development. Some have argued that the challenges posed by AI in the patent field are going to necessitate legislative change or judicial reinterpretation.

**Legal theorists such as Abbott (2020)** have suggested even more radical rethinking of the patent system to sever the link between inventorship and personhood entirely. Such ideas range from introducing new categories or modifying the definition of inventorship to enable non-human agents, but remain still theoretical and have not yet had an impact on policy or jurisprudence on any scale.

## III. METHODOLOGY

This research employs a qualitative research approach, using doctrinal legal research to investigate the changing relationship between artificial intelligence (AI) and patent law. Doctrinal research, sometimes called "black letter" law research, is mainly focused on the systematic analysis of legal rules, statutes, and court decisions. By using this approach, the study intends to critically evaluate the extent to which current legal systems are able to deal with the challenges of AI-made inventions, specifically with reference to the Indian legal environment.The initial phase of the research is comprised of an exhaustive examination of primary and secondary sources, such as legal statutes, court judgments, scholarly articles, and policy documents. This literature-driven analysis is aimed at offering an overall perspective on the classical legal approach towards inventorship and how it covers or leaves out AI systems. A summary of key legal advancements, academic discourse, and theoretical frameworks serves as the basis of this starting point inquiry, enabling the study to situate contemporary issues within legal and historical contexts.[3]

As such, a comparative legal study is undertaken to compare how various jurisdictions have addressed the question of AI-generated inventions. This aspect consists of a discussion of legal regimes like those found in the United States, the European Union, and the United Kingdom, among which have struggled with the issue of whether the law can deem AI an inventor. By this comparative framework, the research assesses variations in legislative wording, judicial construction, and administrative behavior, highlighting harmonies as well as divergences of international patent law. Specific emphasis is placed on high-profile cases like the DABUS litigation, which has been a principal reference point for worldwide legal discussion of AI and patentability.Another central aspect of the methodology is a specific examination of Indian patent law, particularly the Patents Act, 1970,[4] and other associated legal documents. This section examines how existing Indian legal provisions define inventorship, the patentability criteria, and whether the statutory provisions allow or disallow the potential recognition of AI as an inventor. Procedural elements, for example, the requirements for filing patents and how the Controller General of Patents, Designs and Trade Marks (CGPDTM) goes about determining inventors, also receive attention. By taking a detailed look at these provisions, the research expects to see whether gaps, inconsistencies, or limitations exist in Indian patent law that would hinder it from embracing newer styles of innovation.Where applicable, the research also incorporates opinions from expert

[2] Www.pkuniversity.edu.in

[3] Reuters Legal. (2025). How artificial intelligence will naturally affect patentability.

[4] Retrieved from: https://scholarlycommons.law.wlu.edu/wlul

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commentaries, jurists, and policymakers to understand possible reforms or changing meanings. This comprehensive strategy enables a subtle comprehension of both theoretical and practical aspects of the matter.

**Expected Outcomes**

- Improved insight into the pitfalls of current patent laws in acknowledging AI-created inventions, particularly inventorship.
- Comprehensive comparative review of how various legal frameworks address the notion of AI as an inventor and ownership of the resulting inventions by whom.
- Detected legal loopholes and uncertainties within the Indian Patents Act, 1970, relating to AI-generated inventions and intellectual property ownership.
- Practical suggestions for reform of the law to keep pace with technological innovations in AI and innovation.
- Creation of a theoretical model or framework for dividing up ownership rights in inventions made by AI—taking into account developers, corporations, and end users' roles.

**Ethical Considerations**

- **Authenticity and integrity:** Having all materials cited and researched without bias or manipulation.
- **Non-human accountability:** Resolution of the moral conundrum of extending legal rights and obligations to a non-human actor (AI), which does not possess consciousness or purpose.
- **Human displacement issues:** Taking into account the effect of granting inventors' rights, acknowledgment, and encouragement to innovate to human inventors when AI is granted inventors' rights.
- **Data privacy and openness:** Ensuring that all data or case studies employed are not a breach of individual or corporate confidentiality where applicable, and used with consent if necessary.
- **Avoid techno-legal discrimination:** Ensuring that inventions created by AI are not unjustly favored or prejudiced in legal proceedings merely because of the source.

**Data Tables**

**Table 1:** Comparative Overview of AI Inventorship Recognition in Different Jurisdictions

| Jurisdiction | AI as Inventor Recognized? | Legal Framework | Key Court/Office Decision | Ownership Assignment |
|---|---|---|---|---|
| United States | ✗ No | U.S. Patent Act | *Thaler v. Vidal (2022)* | Human inventor required |
| European Union | ✗ No | EPC (European Patent Convention) | EPO's DABUS decision (2021) | Must list a natural person |
| United Kingdom | ✗ No | UK Patents Act 1977 | UKSC DABUS judgment (2023) | AI cannot hold rights |
| Australia | ✓ Initially (lower court) | Patents Act 1990 | Overturned in appeal (2022) | Human required by law |
| India | ? Ambiguous | Indian Patents Act 1970 | No official position yet | No clarity in law |
| South Africa | ✓ Yes | South African IP Law | DABUS Patent Granted (2021) | Rights held by applicant |

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**Table 2:** Legal and Ethical Concerns Surrounding AI Inventorship

| Concern Type | Issue | Implication | Stakeholders Affected |
|---|---|---|---|
| Legal | Lack of legal personality for AI | Cannot be granted legal rights or be sued | Lawmakers, Inventors |
| Ethical | Recognition without consciousness | Challenges principles of accountability | Ethicists, IP authorities |
| Legal | Unclear ownership when AI is used collaboratively | Risk of disputes and misappropriation | Companies, Researchers |
| Ethical | Human creators potentially overshadowed | May demotivate innovation and credit | Human inventors |
| Legal/Ethical | Global inconsistency in treatment | Legal uncertainty in cross-border patents | Multinational firms, IP attorneys |

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