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THE AI INVENTOR DILEMMA: A LEGAL ANALYSIS OF RECOGNITION, RIGHTS, AND REGULATION[1]

AUTHORED BY - AMAN CHAUHAN & SHAILESH KANAUJIYA

ABSTRACT

In Bharat and World around rapid advancement of artificial intelligence (AI) is increasingly challenging foundational principles of patent law, particularly the traditional requirement that inventorship be attributed exclusively to natural persons. Patent systems across jurisdictions have historically assumed that an inventor must possess human intellectual capacity, creativity, and intentionality. However, the development of increasingly autonomous AI systems capable of independently generating novel and non-obvious technical solutions has brought this assumption into question. As a result, the legal recognition of AI as an inventor has emerged as a central and contested issue in contemporary intellectual property law. This paper examines the legal status of artificial intelligence as an inventor through doctrinal analysis, comparative jurisprudence, and policy evaluation. It analyzes how major patent jurisdictions including the United States, the United Kingdom, the European Union, Australia, and South Africa have addressed patent applications naming AI systems, most notably DABUS, as inventors. These decisions expose a fundamental tension between patent statutes grounded in human agency and the technological reality of machine generated innovation. While courts and patent offices have largely rejected AI inventorship on the basis that existing legislation contemplates only natural persons, their reasoning diverges significantly, revealing underlying conceptual and normative uncertainties. The study argues that the inventorship requirement serves several core functions, including the attribution of intellectual contribution, the allocation of proprietary rights, and the maintenance of accountability and legal responsibility. Given the absence of legal personality and moral agency, AI systems cannot presently fulfill these roles within existing legal frameworks. Nonetheless, the exclusion of AI from inventorship raises concerns regarding misattribution, reliance on legal fictions, and potential disincentives to disclose AI-generated inventions.

[1] Mr. Aman Chauhan-Student, Thakur Ramnarayan college of law Mr. Shailesh Kanaujiya- Student, Thakur Ramnarayan college of law Mr. Swayam Ojha- Student, Thakur Ramnarayan college of law
Ms. Rishita Pandey- Student, Thakur Ramnarayan college of law
Mr. Saurabh Shukla- Student, Thakur Ramnarayan college of law

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The paper concludes that although the current refusal to recognize AI as an inventor is doctrinally consistent, it is increasingly strained by advances in AI autonomy, necessitating careful reconsideration of patent law's conceptual foundations.

1. INTRODUCTION

Patent law has historically been founded on a distinctly human centered understanding of invention. At its core, the patent system is designed to reward human ingenuity by granting exclusive rights to individuals who conceive novel, nonobvious, and industrially applicable inventions through intellectual effort. The concept of the "inventor" is therefore central to patent law and is traditionally understood to mean a natural person who exercises creative judgment, mental skill, and intentional problem solving. This assumption is deeply embedded in patent statutes, judicial interpretations, and the philosophical theories that justify patent protection across jurisdictions.

The rapid development of artificial intelligence (AI), however, has begun to unsettle this long standing framework. According to the World Intellectual Property Organization (WIPO) Technology Trends Report, nearly 340,000 AI related patent families have been filed globally, with AI patent filings growing at an exponential rate in sectors like telecommunications and transportation. Artificial intelligence, for the purposes of patent law discourse, refers to computational systems capable of performing tasks that ordinarily require human intelligence, such as learning, reasoning, pattern recognition, and decision making.

More recently, advanced generative AI systems have demonstrated the capacity to create technical solutions independently, sometimes with minimal or no direct human intervention. When such systems produce outputs that satisfy the legal requirements of novelty, inventive step, and industrial applicability, a fundamental legal question arises: can an artificial intelligence[2] system be recognized as an inventor under patent law?

This question has gained global prominence through high profile patent applications identifying AI systems most notably Dr. Stephen Thaler's DABUS (Device for the Autonomous Bootstrapping of Unified Science) as inventors. These applications have prompted patent offices a[3]nd courts worldwide to confront the limits of existing inventorship

[2] Artificial Intelligence has been doubted so as they cannot be defined under the definition of a natural person

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doctrines. In the United States, the Federal Ci[4]rcuit in *Thaler v. Vidal* (2022) affirmed that the plain meaning of "individual" in the Patent Act refers strictly to a natural person. Similarly, the UK Supreme Court in *Thaler v. Comptroller General* ([2023] UKSC 49)[3] ruled that an AI cannot be an inventor under the Patents Act 1977. In contrast, the Companies and Intellectual Property Commission (CIPC) of South Africa[4] granted a patent listing DABUS as the inventor in July 2021, highlighting the lack of international consensus and the conceptual uncertainty surrounding AI generated inventions.

In India, the issue of AI inventorship remains largely unexplored in judicial decisions but is increasingly relevant given the country's growing emphasis on digital innovation. Indian applicants filed over 92,168 patent applications were filed, marking an 11.3% increase over the previous year., a significant surge driven by technology sectors. However, the Patents Act, 1970, presents statutory hurdles. Section 2(1)(y) defines the "true and first inventor" to exclude the first importer or person to whom the invention is communicated, implicitly requiring original creation. Furthermore, Section 6 governs who is entitled to apply for a patent, utilizing language that presupposes legal personality, such as the ability to execute declarations and assign rights. Consequently, the Indian legal framework is grounded in the assumption that inventorship entails legal capacity, accountability, and the ability to hold and transfer rights qualities an AI system currently lacks.

The debate over AI inventorship thus extends beyond narrow questions of statutory interpretation. Inventorship in patent law performs several critical functions: it identifies the source of inventive contribution, determines the initial allocation of proprietary rights, and provides a foundation for legal responsibility. Artificial intelligence systems, lacking legal personality and moral agency, do not readily fit within this structure. At the same time, attributing inventorship to human actors who may not have made a genuine inventive contribution raises concerns about legal fiction, misattribution, and the erosion of doctrinal coherence in the age of autonomous innovation.

2. CONCEPT OF INVENTORSHIP IN PATENT LAW

Inventorship forms the jurisprudential cornerstone of the modern patent system. It identifies the precise source of the intellectual contribution that results in a new and patentable invention.

[3] *Thaler v. Comptroller-Gen. of Pats., Designs & Trade Marks [2023] UKSC 49 (appeal taken from Eng.).*
[4] South African Patent Application No. 2021/03242 (granted July 28, 2021).

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Importantly, inventorship must be distinguished from ownership. While ownership constitutes a transferable proprietary right, inventorship is a moral and factual status grounded in the act of conception the mental process through which an inventor formulates a definite, complete, and operative solution to a technical problem.

Across legal systems worldwide, inventorship is regarded as an immutable legal fact rather than a matter of contractual negotiation. A person cannot acquire the status of inventor merely through agreement, nor can the true inventor be divested of that status by private arrangements. The World Intellectual Property Organization (WIPO) reported that global patent filings exceeded 3.46 million in 2023; yet every valid application relied on the same foundational assumption that a human being, or a group of human beings, performed the requisite intellectual labor. Incorrect identification of inventors is not a trivial procedural lapse. Rather, it constitutes a substantive defect capable of rendering a patent unenforceable or vulnerable to invalidation on grounds such as inequitable conduct or fraud on the patent office.

2.1 HISTORICAL EVOLUTION: FROM GUILD INNOVATION TO THE "FLASH OF GENIUS"

The contemporary legal understanding of inventorship is not an arbitrary legislative construct but the product of centuries of doctrinal development. One of the earliest articulations of inventorship appeared in the Venetian Patent Statute of 1474, widely regarded as the first statutory patent regime. The statute granted protection to "men of great genius" who devised novel machines, thereby establishing what later became known as the reward theory of patents the notion that exclusive rights are granted in exchange for intellectual effort.

This approach was carried forward in the English Statute of Monopolies of 1624[5], which introduced the enduring phrase "true and first inventor." In its early application during the seventeenth and eighteenth centuries, patent law often rewarded the individual who introduced an invention into public use, even if the technology had originated elsewhere. However, with the onset of the Industrial Revolution and the transition from guild based innovation to individual inventors and workshops, the emphasis shifted toward originality and mental creativity.

By the nineteenth and twentieth centuries, patent law increasingly focused on mental

[5] *Statute of Monopolies 1624, 21 Jac. 1, c. 3 (Eng.).*

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conception rather than mere implementation. In the United States, decisions such as *Hotchkiss v. Greenwood* (1850) established that an invention required ingenuity exceeding that of an ordinary mechanic. This standard was later characterized as a "flash of genius," reinforcing the idea that invention is inherently linked to human creativity and cognitive effort. This historical evolution entrenched the view that invention is a uniquely human phenomenon, grounded in intellectual labor and creative insight.

2.2 GLOBAL LEGAL FRAMEWORKS AND THE "MENTAL ACT" REQUIREMENT

Although statutory language differs across jurisdictions, a shared global consensus defines inventorship through the lens of human cognition and mental activity.

A. United States: The Doctrine of Conception

Under United States patent law, Section 100(f) of Title 35 of the U.S. Code defines an inventor as an "individual" who invents or discovers the subject matter of the invention. Courts have consistently interpreted "individual" to mean a natural person. In *Townsend v. Smith* (1929), conception was defined as "the complete performance of the mental part of the inventive act." Furthermore, Section 115 requires inventors to submit a sworn declaration affirming their belief that they are the original inventor. Because artificial intelligence systems cannot form beliefs, make declarations, or be held accountable for perjury, they cannot satisfy these statutory requirements. This position was reaffirmed by the Federal Circuit in *Thaler v. Vidal* (2022), which held that the plain language of the Patent Act restricts inventorship to natural persons.

B. United Kingdom and Europe: The "Actual Deviser"

In the United Kingdom, Section 7(3) of the Patents Act 1977 defines the inventor as the "actual deviser" of the invention. Judicial interpretation, notably in *Yeda Research and Development Co. Ltd. v. Rhone Poulenc Rorer International Holdings Inc.* (2007), clarified that the actual deviser is the person who contributes to the inventive concept, not merely someone who follows instructions or implements ideas. Similarly, the European Patent Convention[6] vests patent rights initially in the inventor under Article 60. In decisions J 8/20 and J 9/20 (the DABUS cases), the EPO Boards of Appeal held that the designation of an inventor must

[6] *European Patent Convention art. 81, Oct. 5, 1973, 1065 U.N.T.S. 199.*

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identify a natural person, emphasizing that inventorship is linked to moral rights rights that cannot attach to machines.

C. Asian Jurisdictions

Asian patent regimes also adhere to a human centric model of inventorship. In China, Rule 13 of the Implementing Regulations of the Patent Law defines an inventor as a person who makes creative contributions to the substantive features of an invention. Japanese patent law similarly interprets inventorship as requiring a natural person who performs the creative act, explicitly excluding corporations and machines from this status.

2.3 INVENTORSHIP VERSUS OWNERSHIP: THE CHAIN OF TITLE PROBLEM

A persistent source of confusion in patent law is the conflation of inventorship with ownership. These are distinct legal concepts. Inventorship relates to the mental act that gives rise to the invention, whereas ownership concerns the commercial exploitation of the patent as a form of property. In most jurisdictions, patent rights initially vest in the inventor and are subsequently transferred to employers or corporations through assignment deeds or employment agreements. This process creates a legally coherent "chain of title":

Human Inventor → Assignment → Corporate Owner

Artificial intelligence disrupts this structure in a fundamental way. If an AI system is regarded as the true creator of an invention, there is no legally recognized inventor at the beginning of the chain. Since AI systems lack legal personality, they cannot hold rights or execute assignments. As a result, the chain of title collapses at its inception.

This situation gives rise to what has been described as an "ownership vacuum." If the law refuses to recognize AI as an inventor and no human can plausibly claim conception, the invention may fall immediately into the public domain or be rendered unpatentable. Patent systems are thus confronted with a dilemma: either redefine inventorship to include non human entities or accept that a growing category of technologically valuable inventions may remain outside the scope of patent protection.

2.4 THE STATISTICAL IMPERATIVE

The urgency of resolving the concept of inventorship is underscored by empirical data. A study by the United States Patent and Trademark Office titled *Inventing AI* revealed that

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references to artificial intelligence appeared in only 2% of patent applications in 2002, but rose to over 18% of all utility patent applications by 2022. As AI systems increasingly shift from functioning as tools to acting as autonomous generators of innovation, the persistence of a strictly human centric definition of inventorship risks placing a substantial and expanding segment of the innovation economy in legal uncertainty.

3. DOCTRINAL BARRIERS TO THE RECOGNITION OF ARTIFICIAL INTELLIGENCE AS AN INVENTOR

The architecture of contemporary patent law is built upon an inherently anthropocentric epistemology one that assumes creativity, ingenuity, and invention to be exclusively human capacities. This assumption is not confined to philosophical discourse; rather, it is embedded within statutory language, procedural mechanisms, and judicial interpretation across jurisdictions. Consequently, the exclusion of artificial intelligence (AI) from the category of legally recognized inventors does not stem from legislative omission or regulatory inertia, but from a deep structural incompatibility between autonomous machine systems and the doctrinal foundations of patent law, particularly the concepts of legal personhood, property vesting, and accountability.

Patent law presupposes that inventors possess consciousness, intent, moral agency, and legal responsibility. AI systems, regardless of their technical sophistication, exist outside these legal and moral constructs. As global investment in AI driven innovation exceeded USD 190 billion in 2023 (OECD data), the tension between technological capability and legal recognition has become increasingly pronounced, exposing doctrinal fault lines that demand rigorous legal scrutiny.

3.1 THE STATUTORY REQUIREMENT OF NATURAL PERSONHOOD

The most immediate and significant doctrinal obstacle to AI inventorship is the statutory requirement that an inventor must be a natural person. This requirement operates as a threshold condition, effectively excluding non human entities from recognition.

United States

The United States Patent Act (35 U.S.C.)[7] repeatedly employs the term “individual” when

[7] *35 U.S.C. §§ 100, 115, 256.*

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referring to inventors. Judicial interpretation has consistently held that "individual" denotes a natural human being, distinct from the broader legal category of "person," which may include corporations or legal entities. In *Beech Aircraft Corp. v. EDO Corp.* (1993), and later reaffirmed in *Thaler v. Vidal* (2022), U.S. courts emphasized that inventorship is inseparable from mental conception the formation of a complete and definite idea in the human mind.

The Federal Circuit explicitly rejected the argument that advanced computational processes could satisfy this requirement, holding that conception remains a biological and cognitive phenomenon unique to humans.

India

The Indian Patents Act, 1970 does not expressly define "person" as limited to humans under Section 2(1)(s). However, the definition of "true and first inventor" under Section 2(1)(y), though framed negatively, implicitly presumes human authorship by excluding mere importers. Section 6 further permits patent applications only by "any person claiming to be the true and first inventor." While the General Clauses Act, 1897 expands the meaning of "person" to include associations and bodies of individuals, Indian judicial interpretation such as in *V.B. Mohammed Ibrahim v. Alfred Schafranek* makes clear that the origination of an inventive idea must stem from human intellectual effort. The absence of explicit statutory recognition of AI thus reinforces, rather than weakens, the human centric nature of Indian patent law.

3.2 LEGAL CAPACITY AND THE PROBLEM OF INITIAL VESTING

Inventorship is not merely symbolic; it is the legal origin of proprietary rights. Patent rights must first vest in the inventor before they can be transferred through assignment or contractual arrangements.

Absence of Legal Personality

Artificial intelligence systems are classified as property under existing legal frameworks. They lack legal personality and are incapable of owning property. As a matter of settled jurisprudence, property cannot hold proprietary rights. If an AI system autonomously generates an invention, there exists no legally cognizable entity in which the patent right can initially vest.

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The Broken Chain of Title

Under conventional patent practice, an inventor assigns their rights to an employer or corporate entity through an assignment deed. This process is essential for establishing a valid chain of title. However, under Section 11 of the Indian Contract Act, 1872, only persons competent to contract may enter binding agreements. An AI system lacks contractual capacity and cannot execute assignments. Consequently, recognizing an AI as an inventor would sever the chain of title at its inception, rendering the patent legally defective and potentially placing the invention in the public domain immediately.

3.3 ACCOUNTABILITY AND THE OATH OF INVENTORSHIP

Patent prosecution relies heavily on trust, disclosure, and accountability. It is an ex parte process grounded in a duty of candor owed by the inventor to the patent office.

Incapacity to Form Belief

In the United States, 35 U.S.C. § 115 requires inventors to submit an oath or declaration affirming their belief that they are the original inventor. Belief is a subjective mental state involving consciousness, intent, and moral awareness qualities that AI systems do not possess. Similar declaration requirements exist across jurisdictions, including India, where inventors must affirm originality and disclosure.

Deterrence and Legal Sanctions

Human inventors who engage in fraudulent conduct face severe civil and criminal consequences. AI systems, by contrast, are immune to punishment, deterrence, and moral blame. Recognizing an entity that cannot be sanctioned undermines the integrity of the patent system and erodes the deterrent effect essential to maintaining procedural honesty.

4. THE DABUS LITIGATION: A COMPARATIVE GLOBAL STRESS TEST FOR PATENT LAW

The theoretical debate surrounding artificial intelligence as an inventor assumed concrete legal significance with the filing of patent applications naming an AI system DABUS (Device for the Autonomous Bootstrapping of Unified Sentience) as the sole inventor. These applications were submitted by Dr. Stephen Thaler across more than fifteen jurisdictions, including the United States, the United Kingdom, the European Patent Office, Australia, Germany, South

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Africa, and others. According to data compiled by the World Intellectual Property Organization (WIPO), the DABUS filings represent the first coordinated, multi jurisdictional attempt to directly challenge the human centric inventorship requirement embedded in global patent law.

The inventions attributed to DABUS included a fractal based food container and a neural flame device, both of which were argued to meet the substantive patentability criteria of **novelty**, inventive step, and industrial applicability. While patent offices did not dispute the technical merit of the inventions, the designation of an artificial intelligence system as the inventor triggered widespread rejection. As a result, the DABUS litigation became a global stress test for patent law, compelling courts and patent authorities to confront whether existing legal frameworks could accommodate machine generated inventions without legislative reform.

4.1 UNITED STATES: TEXTUAL FIDELITY AND JUDICIAL RESTRAINT

In *Thaler v. Vidal* (2022)[8], the United States Court of Appeals for the Federal Circuit affirmed the decision of the United States Patent and Trademark Office (USPTO) rejecting the DABUS applications. The court adopted a strict textualist approach, focusing on the language of the Patent Act, which repeatedly refers to the inventor as an "individual." Relying on the Dictionary Act, the court interpreted "individual" to mean a natural human being, thereby excluding artificial intelligence systems from the scope of inventorship.

The Federal Circuit emphasized that inventorship under U.S. law is inseparable from the concept of mental conception, defined in earlier jurisprudence as the formation of a complete and operative idea in the mind of a human inventor. The court expressly declined to consider broader policy arguments, such as the need to incentivize AI innovation or maintain international competitiveness. Instead, it underscored the principle of judicial restraint, holding that any expansion of inventorship to include non human entities must be undertaken by Congress rather than the judiciary. This decision aligns with the USPTO's long standing administrative practice and reflects institutional reluctance to reinterpret foundational statutory terms in the absence of explicit legislative direction.

4.2 UNITED KINGDOM: THE DEVISER DOCTRINE AND THE FLOW OF RIGHTS

The United Kingdom Supreme Court reached a similarly definitive conclusion in *Thaler v*

[8] *Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022).*

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Comptroller General of Patents ([2023] UKSC 49)[11]. The Court unanimously held that the term "inventor" under the Patents Act 1977 refers exclusively to a natural person, defined as the "actual deviser" of the invention. The judgment emphasized that devisorship requires human creative contribution and cannot be satisfied by an autonomous machine system.

A central issue in the UK case concerned the flow of rights. Dr. Thaler argued that, as the owner of DABUS, he was entitled to the patents generated by the system. The Court rejected this reasoning, clarifying that ownership of an AI system does not automatically confer entitlement to inventions purportedly generated by it. The Court drew a clear doctrinal distinction between ownership of a tool and satisfaction of statutory inventorship requirements, observing that patent rights cannot arise in a legal vacuum. This reasoning reinforced the principle that inventorship serves as the legal foundation upon which ownership and assignment are built.

4.3 AUSTRALIA: TEMPORARY JUDICIAL DIVERGENCE AND SUBSEQUENT REVERSAL

Australia briefly emerged as an outlier in the global debate when Justice Beach of the Federal Court, in *Thaler v Commissioner of Patents* (2021)[9], held that an artificial intelligence system could be recognized as an inventor. Justice Beach adopted a purposive and technologically adaptive interpretation of the Patents Act, reasoning that the law should evolve in response to advances in innovation. He argued that excluding AI inventorship risked undermining the objectives of patent law by discouraging disclosure of AI generated inventions.

However, this progressive interpretation was short lived. In 2022, the Full Federal Court unanimously overturned the decision, restoring the orthodox position that inventorship requires human agency. The appellate court emphasized statutory coherence, legal certainty, and consistency with international patent norms. It concluded that recognizing AI as an inventor would generate significant doctrinal disruption, particularly in relation to ownership, liability, and procedural compliance.

4.4 GERMANY: THE TRANSPARENCY BASED COMPROMISE MODEL

The German Federal Patent Court adopted a more nuanced and pragmatic approach. While

[9] *Thaler v. Commissioner of Patents [2021] FCA 879 (Austl.).*

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firmly rejecting the designation of an AI system as the sole inventor, the court allowed a human applicant to be named as the inventor, provided that the patent specification transparently disclosed the role played by artificial intelligence in the inventive process. This approach sought to balance doctrinal fidelity with technological realism.

The German model reflects a growing policy emphasis on transparency rather than legal personhood. By acknowledging AI involvement without conferring inventorship status, the court preserved the human centric structure of patent law while accommodating the realities of AI assisted innovation. This compromise approach has been influential in policy discussions within the European Union, where concerns about innovation incentives, ethical accountability, and legal coherence continue to shape reform debates.

4.5 INDIA: STATUTORY SILENCE, ADMINISTRATIVE PRACTICE, AND EMERGING POLICY RESPONSES

India has not yet witnessed a direct judicial determination on the question of artificial intelligence as an inventor in the context of the DABUS applications. Nevertheless, the Indian legal position can be inferred from statutory provisions, administrative practice of the Indian Patent Office (IPO), parliamentary deliberations, and national policy initiatives on artificial intelligence. Collectively, these sources reveal a legal framework that remains firmly human centric, while simultaneously acknowledging the disruptive potential of AI driven innovation.

4.5.1 STATUTORY FRAMEWORK UNDER THE PATENTS ACT, 1970

The Patents Act, 1970 does not expressly define "inventor" in positive terms, but Section 2(1)(y) defines a "true and first inventor" by exclusion, stating that it does not include the first importer of an invention into India. While the provision does not explicitly limit inventorship to natural persons, the statutory structure implicitly assumes human agency. Section 6 permits patent applications to be filed by "any person claiming to be the true and first inventor," language that presupposes the existence of legal personality, intent, and the capacity to assert rights.

Further, the definition of "inventive step" under Section 2(1)(ja) refers to a feature involving technical advance or economic significance that is not obvious to a "person skilled in the art." This hypothetical construct is universally understood to represent a human practitioner with

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ordinary technical knowledge, not an autonomous machine system. The reliance on human cognitive benchmarks throughout the Act reinforces the conclusion that the Indian patent framework is premised on human inventorship.

4.5.2 ADMINISTRATIVE PRACTICE OF THE INDIAN PATENT OFFICE

In the absence of explicit statutory guidance on AI inventorship, the Indian Patent Office has adopted a conservative and orthodox approach. Under Form 1 of the patent application process, applicants are required to disclose the name, nationality, and address of the "true and first inventor." Applications that fail to identify a natural person as inventor are routinely objected to or rejected during formal examination.

The Manual of Patent Office Practice and Procedure further strengthens this position by emphasizing the disclosure of human inventors and their contribution. Although the IPO has not publicly adjudicated a DABUS type application, practitioners report that applications naming non human inventors are treated as procedurally defective. This administrative stance aligns India with the dominant global approach adopted by the USPTO, EPO, and UK Intellectual Property Office.

4.5.3 PARLIAMENTARY RECOGNITION OF THE AI CHALLENGE

A significant policy development occurred with the release of the 161st Report of the Parliamentary Standing Committee on Commerce in July 2021, titled *"Review of the Intellectual Property Rights Regime in India."* The Committee expressly acknowledged that emerging technologies, including artificial intelligence and machine learning, are placing unprecedented strain on existing intellectual property frameworks.

The Report observed that traditional IP laws, which are rooted in human creativity and authorship, may be ill equipped to address inventions generated autonomously by AI systems. It recommended that the Department for Promotion of Industry and Internal Trade (DPIIT) [10]undertake a comprehensive review of the Patents Act, 1970 to assess whether a distinct category of protection is required for AI generated inventions. While the Committee stopped short of endorsing AI inventorship, its recommendations represent the first formal parliamentary acknowledgment that the human inventor model may be insufficient in the

[10] *Department for Promotion of Indus. & Internal Trade (DPIIT), National Intellectual Property Rights Policy (2016) (India).*

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long term.

4.5.4 NATIONAL AI POLICY AND INNOVATION STRATEGY

India's policy engagement with artificial intelligence is primarily articulated through NITI Aayog's *National Strategy for Artificial Intelligence: #AIforAll*. The Strategy identifies AI as a critical driver of economic growth, estimating that AI could add nearly USD 450–500 billion to India's GDP by 2025. Although the document does not propose concrete amendments to patent law, it underscores the importance of a robust and adaptive intellectual property regime to support AI led innovation.

The Strategy also highlights concerns relating to ownership, accountability, and ethical governance of AI outputs. By emphasizing the need for policy coherence rather than piecemeal reform, the NITI Aayog framework implicitly supports the exploration of alternative IP models, such as sui generis protection, rather than forcing AI generated inventions into the existing patent structure.

4.5.5 THE OBVIOUSNESS AND "PERSON SKILLED IN THE ART" DILEMMA

A uniquely Indian challenge arises from the application of the non obviousness standard under Section 2(1)(ja) of the Patents Act. As AI tools become increasingly integrated into research and development, the benchmark of the "person skilled in the art" risks evolving into an AI augmented standard. If AI becomes a routine tool for invention, courts and patent examiners may begin to assess obviousness from the perspective of a hypothetical skilled person equipped with AI capabilities.

This doctrinal shift could significantly raise the threshold for patentability, potentially disadvantaging individual inventors and small enterprises. Empirical data from the Indian Patent Office indicates that AI related patent filings in India have increased by over 300% between 2015 and 2022, particularly in sectors such as pharmaceuticals, fintech, and telecommunications. Without doctrinal clarity, this rapid growth may lead to inconsistent examination standards and legal uncertainty.

4.5.6 INDIA IN THE GLOBAL CONTEXT

India's cautious approach mirrors the broader international consensus rejecting AI inventorship under existing laws. However, as a major technology hub with a rapidly expanding AI

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ecosystem, India faces heightened pressure to develop a future ready IP framework. The absence of judicial precedent offers both a challenge and an opportunity: while uncertainty persists, India retains the flexibility to shape a model that balances innovation incentives, legal coherence, and public interest.

5. THE INDIAN POSITION: LAW, POLICY, AND EMERGING CHALLENGES

India occupies a distinctive position in the global debate on artificial intelligence and patent law. While the country has not yet confronted AI inventorship through judicial adjudication, its statutory framework, administrative practice, and policy discourse collectively reveal a cautious but evolving approach. As one of the world's fastest growing technology markets and a major hub for AI research and deployment, India faces mounting pressure to reconcile its human centric patent regime with the realities of machine generated innovation.

5.1 STATUTORY SILENCE AND ADMINISTRATIVE PRACTICE

The Patents Act, 1970 does not expressly address the status of artificial intelligence as an inventor. Nevertheless, the statutory scheme implicitly assumes human inventorship. Sections 2(1)(y) and 6 of the Act refer to the "true and first inventor" and permit patent applications by persons claiming that status, language that presupposes legal personality, intent, and the capacity to assert rights. Moreover, the definition of "inventive step" under Section 2(1)(ja) relies on the standard of a "person skilled in the art," a construct universally understood as a human practitioner possessing ordinary technical knowledge.

In practice, the Indian Patent Office (IPO) has consistently interpreted these provisions as requiring the identification of a natural person as inventor. Under Form 1 of the patent application process, applicants must disclose the name, address, and nationality of the inventor. Applications that fail to name a human inventor are treated as procedurally defective and are typically objected to or rejected at the examination stage. Although no publicly reported DABUS style application has been adjudicated in India, this administrative practice aligns closely with the approaches adopted by the USPTO, EPO, and UK Intellectual Property Office. The IPO's stance reflects a preference for doctrinal certainty and international harmonization over experimental reinterpretation.

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5.2 PARLIAMENTARY RECOGNITION: THE 161ST STANDING COMMITTEE REPORT

A significant acknowledgment of the AI challenge emerged at the legislative level with the release of the 161st Report of the Parliamentary Standing Committee on Commerce in July 2021, titled *"Review of the Intellectual Property Rights Regime in India."* The Committee expressly recognized that emerging technologies such as artificial intelligence and machine learning are testing the limits of existing intellectual property frameworks, which were designed around human creativity and authorship.

The Report noted that AI generated outputs raise complex questions regarding inventorship, ownership, and incentive structures. Importantly, the Committee recommended that the Department for Promotion of Industry and Internal Trade (DPIIT) undertake a comprehensive review of the Patents Act, 1970 to assess whether amendments or new forms of protection are necessary. While the Committee did not advocate immediate recognition of AI as an inventor, its recommendations mark a decisive shift from doctrinal silence to proactive legislative engagement.

5.3 POLICY DIRECTION: NITI AAYOG AND AI GOVERNANCE

India's broader policy orientation toward artificial intelligence is articulated in NITI Aayog's *National Strategy for Artificial Intelligence – #AIforAll*. The Strategy positions AI as a critical engine of economic growth, estimating that AI driven technologies could contribute between USD 450 and 500 billion to India's GDP in the coming decade. Although the document does not prescribe specific patent law reforms, it underscores the importance of a robust, flexible, and innovation friendly intellectual property regime.

The Strategy emphasizes ethical governance, accountability, and inclusive innovation, implicitly recognizing that traditional IP frameworks may be ill suited to address autonomous machine creativity. By acknowledging these structural tensions, NITI Aayog leaves open the possibility of alternative legal models, including sector specific or sui generis regimes, rather than forcing AI generated inventions into an outdated human inventor paradigm.

5.4 THE OBVIOUSNESS CONUNDRUM AND THE PSITA STANDARD

One of the most profound doctrinal challenges posed by AI in the Indian context concerns the standard of non obviousness under Section 2(1)(ja) of the Patents Act. Patentability in India

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is assessed against the benchmark of a "person skilled in the art" (PSITA), a hypothetical human endowed with ordinary technical competence. As AI systems become integral to research and development, this benchmark risks evolving into an AI augmented or AI enabled standard.

If AI becomes a routine tool in inventive processes, inventions that would once have been considered non obvious to a human inventor may be deemed obvious when evaluated through an AI enhanced lens. This shift could significantly raise the threshold for patentability, disproportionately disadvantaging individual inventors, startups, and small enterprises. Data from the Indian Patent Office indicates a sharp rise in AI related patent filings particularly in pharmaceuticals, fintech, and telecommunications suggesting that doctrinal uncertainty may soon translate into practical enforcement challenges.

6. REFORM MODELS FOR THE AI DRIVEN INNOVATION ERA

In light of widespread judicial consensus that existing patent laws cannot accommodate AI inventors, scholars and policymakers have proposed several reform models aimed at reconciling legal doctrine with technological change.

6.1 THE DEEMED INVENTOR (LEGAL FICTION) MODEL

The deemed inventor model assigns inventorship to a human actor most closely associated with the AI system, such as the programmer, data trainer, or user. This approach mirrors Section 9(3) of the UK Copyright, Designs and Patents Act 1988, which attributes authorship of computer generated works to the person who made the necessary arrangements for their creation.

Applied to patent law, this model offers administrative simplicity and preserves existing legal structures. However, it risks diluting the conceptual integrity of inventorship by attributing creative credit to individuals who may not have made a genuine inventive contribution.

6.2 THE OWNERSHIP CENTRIC OR "ELECTRONIC PERSON" MODEL

Under the ownership centric model, patent rights would vest automatically in the owner of the AI system, treating AI as an advanced tool akin to industrial machinery. Proposals in the European Parliament to recognize "electronic personhood" briefly explored this approach but were ultimately abandoned due to ethical, legal, and policy concerns.

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This model favors efficiency and investment certainty but raises significant risks of monopolization, as it disproportionately benefits large corporations with access to advanced computing infrastructure, potentially marginalizing individual innovators and smaller enterprises.

6.3 THE SUI GENERIS FRAMEWORK

The sui generis model advocates the creation of a distinct intellectual property regime tailored specifically to AI generated inventions. Such a framework could offer limited term protection shorter than the standard 20 year patent term and impose a lower threshold of inventiveness, reflecting the rapid pace of technological evolution.

By separating AI generated outputs from traditional patents, this approach preserves the doctrinal coherence of patent law while ensuring that investment in AI innovation is not left entirely unprotected. Comparable sector specific regimes in India, such as the Semiconductor Integrated Circuits Layout Design Act, 2000, demonstrate the feasibility of this approach.

6.4 CONCLUSION

Judicial resistance to recognizing artificial intelligence as an inventor across jurisdictions reflects doctrinal consistency rather than judicial conservatism. However, as AI systems increasingly transition from tools of assistance to agents of autonomous creation, legislative intervention is no longer optional. For India, the challenge lies in balancing innovation incentives, legal coherence, and public interest. Whether the country opts for incremental statutory reform or embraces a purpose built legal framework will play a decisive role in shaping its future position within the global innovation econ

7. SUGGESTIONS AND RECOMMENDATIONS: TOWARDS A RESPONSIVE LEGAL FRAMEWORK

7.1. RETHINKING THE BINARY APPROACH TO AI INVENTORSHIP

The analysis of the DABUS litigation and the broader comparative legal landscape demonstrates that a binary acceptance or rejection of artificial intelligence as an inventor is fundamentally inadequate. A categorical denial of AI inventorship preserves doctrinal consistency and aligns with the traditional human centric foundations of patent law, yet it fails to acknowledge the economic and technological realities of modern innovation.

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Conversely, an unqualified recognition of AI as an inventor risks undermining the normative justification of patent protection by severing the link between inventorship, human agency, and legal accountability. What is therefore required is a calibrated legal response that recognizes the varying degrees of AI involvement in the inventive process while preserving the conceptual integrity of the patent system.

A responsive framework must distinguish between AI assisted inventions, where human actors retain meaningful control, and genuinely autonomous AI generated inventions, where human contribution is remote or indirect. This distinction allows the law to move beyond rigid definitions of mental conception and instead focus on functional participation in innovation. Such an approach avoids both doctrinal stagnation and conceptual overreach, enabling patent law to evolve in step with technological advancement.

7.2. IMMEDIATE ADMINISTRATIVE REFORM: MANDATORY DISCLOSURE OF AI CONTRIBUTION

Before engaging in substantive statutory reform, patent systems must first address the procedural deficiencies created by the non disclosure of AI involvement in patent applications. At present, applicants may rely heavily on AI systems during the inventive process while presenting the invention as the product of exclusive human ingenuity. This lack of transparency creates information asymmetry between applicants and patent offices, undermines the examiner's ability to accurately assess inventive step, and risks distorting the public record of technological progress.

To remedy this, patent offices should introduce mandatory disclosure requirements concerning the use of AI in the inventive process. In the Indian context, this could be achieved through amendments to filing requirements under the Patents Rules, 2003, particularly Form 1. Applicants should be required to disclose whether AI systems contributed to the conception of the invention or were merely used as tools for reduction to practice. Such disclosure would enhance the accuracy of patent examination and enable policymakers to gather empirical data on the extent of AI driven innovation.

Non disclosure of material AI involvement should carry legal consequences. Failure to provide accurate information regarding AI contribution should constitute grounds for post grant opposition or revocation on the basis of misrepresentation, including under Section 64(1)(j) of

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the Indian Patents Act, 1970. This reform does not seek to grant legal status to AI but instead promotes transparency, integrity, and informed decision making within the patent system.

7.3. DOCTRINAL REINTERPRETATION: THE HUMAN IN THE LOOP CAUSATION TEST

One of the central challenges exposed by AI generated inventions is the rigidity of the traditional concept of "mental conception." Courts have struggled to apply this notion in contexts where invention emerges from iterative interactions between humans and machines. Rather than abandoning the concept of inventorship altogether, patent law should adopt a more functional and causation based approach.

Under a proposed "human in the loop" causation test, the focus of the legal inquiry should shift from whether a human conceived the precise technical output to whether the invention would have come into existence but for the human's direction, control, or selection. This approach recognizes that human ingenuity in AI assisted innovation often lies in framing the problem, curating data, designing prompts, constraining solution spaces, and exercising expert judgment in selecting viable outcomes.

This doctrinal shift finds persuasive support in copyright law, particularly in India, where the Copyright Act, 1957 attributes authorship of computer generated works to the person who causes the work to be created. Applying a similar interpretive logic in patent law allows inventorship to remain vested in human actors while acknowledging the evolving nature of the inventive act. In this framework, inventorship is grounded not in spontaneous ideation but in deliberate direction and evaluative control.

7.4. LONG TERM LEGISLATIVE REFORM: A SUI GENERIS REGIME FOR COMPUTATIONAL INNOVATION

While doctrinal reinterpretation may address AI assisted inventions, it is insufficient to resolve the challenges posed by highly autonomous AI generated innovations. Attempting to force such inventions into the existing patent framework risks conceptual distortion and policy incoherence. A more principled response lies in the creation of a sui generis regime specifically tailored to computational innovation.A sui generis system would operate alongside the traditional patent regime while recognizing the distinct characteristics of AI generated outputs. Protection under this regime should be limited in duration, reflecting the rapid pace of

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technological obsolescence in AI driven fields. Unlike patents, which confer twenty years of exclusivity, computational innovations may warrant significantly shorter protection to prevent market stagnation and promote competition.

Importantly, this regime should not recognize AI systems as inventors. Instead, it should allocate economic rights to the entity that owns, operates, or invests in the AI system, thereby rewarding financial risk and technological development without anthropomorphizing machines. India's experience with specialized intellectual property statutes, such as those governing semiconductor layouts and plant varieties, demonstrates the feasibility of creating bespoke protection mechanisms without undermining the coherence of patent law.

7.5. Recalibrating the "Person Skilled in the Art" in the Age of AI

The standard of the "Person Skilled in the Art" (PSITA) plays a crucial role in assessing inventive step and obviousness. However, as AI tools become ubiquitous in research and development, the traditional conception of the PSITA risks becoming obsolete. If the hypothetical skilled person is assumed to possess access to advanced AI tools, the threshold of obviousness may rise to such an extent that patent protection becomes unattainable for a wide range of innovations.

To address this challenge, patent offices should clarify that the PSITA represents a human researcher equipped with standard AI tools commonly available in the relevant field. At the same time, examination guidelines must distinguish between routine uses of AI, which should be considered obvious, and creative or strategic deployment of AI, which may support an inventive step. This recalibration preserves the balance between preventing trivial monopolies and rewarding genuine technical advancement.

7.6. ESTABLISHING A RIGHTS RESPONSIBILITY NEXUS IN AI GENERATED INNOVATION

A critical weakness in proposals advocating AI inventorship is the absence of corresponding legal responsibility. Patent rights are not merely economic privileges they carry obligations, including liability for infringement and potential harm arising from the use of the invention. Recognizing AI as an inventor without identifying a responsible legal actor creates a dangerous accountability vacuum.To avoid this outcome, any legal framework that grants economic benefits for AI generated inventions must impose strict liability on the human or corporate

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entity claiming those benefits. Ownership of rights must be inseparably linked to responsibility for legal compliance, infringement, and consumer harm. In high risk sectors, such as pharmaceuticals or chemical engineering, this may also justify mandatory insurance requirements to ensure that affected parties have access to effective remedies.

7.7. THE NEED FOR INTERNATIONAL HARMONIZATION THROUGH WIPO

Patent law operates within a territorial framework, yet AI innovation transcends national boundaries. Divergent national approaches to AI inventorship risk encouraging forum shopping, regulatory arbitrage, and fragmentation of global innovation markets. Without coordination, an invention may enjoy monopoly protection in one jurisdiction while remaining unprotected in another, undermining legal certainty and fairness.

There is therefore a pressing need for international harmonization through a dedicated WIPO treaty on artificial intelligence and intellectual property. Such an instrument could establish baseline standards on disclosure, inventorship attribution, and the treatment of AI generated inventions, while allowing national variation in implementation. India, as a major technology hub and representative of Global South interests, is well positioned to play a leadership role in this process.

7.8. A TARGETED ROADMAP FOR INDIA

India's ambition to emerge as a global digital and innovation economy renders continued statutory silence on AI inventorship untenable. Policymakers must adopt a proactive approach that balances innovation incentives with public interest considerations. This should begin with a focused consultation process led by the Department for Promotion of Industry and Internal Trade, specifically addressing AI inventorship rather than treating it as a peripheral issue.Legislative reform should also extend to evidentiary rules governing AI generated records, audit trails, and technical logs, which are increasingly central to patent disputes. Additionally, safeguards must be introduced to prevent the concentration of AI generated patents in the hands of a few dominant technology firms. In sectors involving essential technologies, compulsory licensing mechanisms should be recalibrated to ensure access, affordability, and competition.

7.9. CONCLUDING OBSERVATIONS ON THE RECOMMENDATIONS

The challenge posed by AI inventorship is not merely definitional it implicates the future of

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innovation policy, distributive justice, and the role of human agency in technological development. The recommendations advanced in this chapter seek to modernize patent law without abandoning its foundational commitment to human creativity and accountability. By combining short term administrative transparency, medium term doctrinal flexibility, and long term legislative innovation, legal systems can accommodate AI driven invention while preserving the legitimacy and effectiveness of patent protection. Failure to act risks either doctrinal obsolescence or the erosion of disclosure incentives through increased reliance on trade secrecy. The time for incremental adjustment has passed deliberate and principled legal reform is now essential.

8. AUTHORS' INTAKE AND OPINION: PRESERVING THE HUMAN CORE OF INNOVATION

8.1. FRAMING THE AUTHORS' POSITION ON AI INVENTORSHIP

Following an extensive examination of statutory frameworks, judicial developments including the DABUS litigation and comparative policy approaches in India and other major jurisdictions, the authors arrive at a considered and principled position on the question of artificial intelligence as an inventor. While the transformative potential of AI in research, development, and problem solving is undeniable, this paper firmly maintains that the legal status of "inventor" must remain the exclusive preserve of natural persons. This position is not rooted in technological conservatism, but in a careful assessment of the normative, economic, and procedural foundations upon which patent law is built. The authors' stance rests on three interrelated pillars. First, inventorship embodies a moral and philosophical commitment to human agency and creativity. Second, recognizing AI as an inventor poses serious socio economic risks, particularly for developing economies such as India. Third, extending inventorship to non human entities creates insurmountable challenges of legal accountability and enforcement. Taken together, these considerations demonstrate that while AI may revolutionize the process of invention, it should not displace humans at the center of the legal concept of inventorship.

8.2. THE MORAL ARGUMENT: INVENTION AS AN EXPRESSION OF HUMAN PERSONALITY

At its core, the patent system is not merely an economic incentive mechanism but also a normative framework that recognizes and rewards human intellectual effort. Philosophically,

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invention has long been understood as an extension of the inventor's personality a manifestation of individual labor, creativity, and problem solving capacity. Doctrines such as the "sweat of the brow" and the "flash of genius," though differently emphasized across jurisdictions, reflect the deeply human character of inventive activity. Artificial intelligence, regardless of its sophistication, lacks the attributes that give moral meaning to invention. An AI system does not possess intent, consciousness, or an intrinsic desire to solve problems for societal benefit. Its outputs are the result of probabilistic computation, statistical inference, and pattern recognition based on pre existing data. To equate such outputs with human creativity is to conflate calculation with cognition. Granting inventorship to a machine therefore risks eroding the symbolic and ethical significance of patent law as a recognition of human ingenuity.Moreover, even in cases of high AI autonomy, the human presence remains indispensable. Humans identify the problem to be solved, design and train the AI system, select appropriate datasets, define objectives, and evaluate the outputs produced. The inventive contribution may be mediated through technology, but it is not eliminated. For this reason, the law must continue to protect and privilege the human role in the inventive process, rather than elevating machines to a status they are neither philosophically nor morally equipped to occupy.

8.3. THE SOCIO ECONOMIC CONCERN: RISKS TO THE INDIAN INNOVATION ECOSYSTEM

From an Indian perspective, the recognition of AI as an inventor raises particularly acute socio economic concerns. India's innovation landscape is characterized by a vibrant startup ecosystem, academic research institutions, and a tradition of resource efficient grassroots innovation, often described as jugaad. This ecosystem thrives on accessibility, incremental innovation, and human ingenuity operating under constrained resources.Recognizing AI inventorship would disproportionately advantage multinational corporations and large technology firms with access to vast computational resources, proprietary datasets, and advanced AI infrastructure. Such entities could potentially generate and file thousands of AI derived patent applications at minimal marginal cost, overwhelming patent offices and creating dense "patent thickets." These thickets could act as significant barriers to entry for Indian startups, individual researchers, and small enterprises that lack comparable technological capacity.Rather than democratizing innovation, AI inventorship risks accelerating the concentration of intellectual property in the hands of a few dominant actors. This outcome would undermine competition, stifle local innovation, and entrench global inequalities in

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technological ownership. Such concentration is difficult to reconcile with the constitutional vision of India, which seeks to prevent excessive accumulation of wealth and control over the means of production. Patent law, as an instrument of public policy, must be sensitive to these distributive consequences rather than facilitating algorithmic monopolies.

8.4. THE ACCOUNTABILITY PARADOX: RIGHTS WITHOUT CORRESPONDING DUTIES

A fundamental principle of legal systems is the inseparability of rights and responsibilities. Patent rights confer not only economic benefits but also legal obligations, including duties of disclosure, accountability in infringement proceedings, and liability for harm caused by the exploitation of the invention. Recognizing AI as an inventor disrupts this balance and creates what may be described as an accountability paradox.From a procedural standpoint, patent litigation routinely requires inventors to explain the inventive step, respond to challenges, and submit to cross examination. An artificial intelligence system cannot testify, cannot be cross examined, and cannot provide rational explanations in legal terms. This procedural incapacity undermines the adjudicatory process and weakens the enforceability of patent law.From a substantive perspective, the inability of AI to bear legal liability is even more problematic. If an AI generated invention infringes an existing patent or causes harm such as in the case of pharmaceuticals or chemical technologies the “inventor” cannot be sued, sanctioned, or compelled to compensate victims. Allowing AI inventorship would therefore enable human owners to enjoy the benefits of patent protection while evading responsibility by attributing invention to a machine. This vacuum of accountability is incompatible with fundamental principles of justice and legal coherence.

8.5. AI AS A TOOL, NOT A LEGAL ACTOR

The authors ultimately conceptualize artificial intelligence as a powerful and transformative tool rather than a legal or moral actor. Throughout the history of science and technology, tools have evolved dramatically from microscopes and calculators to computers and advanced simulation software yet the law has consistently attributed discovery and invention to the human users of those tools. The mere fact that a tool has become more autonomous or sophisticated does not justify reassigning inventorship.When a scientist uses an electron microscope to identify a virus, the credit accrues to the scientist, not the instrument.

Similarly, when a researcher employs a generative model or neural network to identify a novel

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compound, it is the researcher who frames the inquiry, validates the output, and integrates the result into a meaningful technical solution. AI enhances human capability, but it does not replace human judgment, responsibility, or purpose.Viewing AI as a colleague rather than a tool risks anthropomorphizing technology and obscuring the human decision making that underlies innovation. The law must resist this temptation and instead refine its understanding of how human contribution manifests in technologically mediated contexts.

8.6. CONCLUDING POSITION OF THE AUTHORS

In light of the foregoing analysis, the authors conclude that the recognition of artificial intelligence as an inventor is neither legally desirable nor conceptually sound. The appropriate response to the challenges posed by AI driven innovation is not to redefine inventorship in non human terms, but to modernize legal frameworks in ways that continue to center human agency. Accordingly, the authors support the retention of human inventorship under the Patents Act, 1970, while advocating for complementary mechanisms such as a sui generis regime to protect investments in AI generated outputs without distorting the meaning of the "true and first inventor."The law must evolve to regulate humanity's use of technology, not to elevate technology to the status of humanity itself. Preserving the human core of innovation is essential not only for doctrinal coherence, but also for ensuring that the patent system continues to serve its broader social, economic, and ethical purposes.

CONCLUSION

The question of whether artificial intelligence can be recognized as an inventor strikes at the conceptual core of patent law and its underlying assumptions about creativity, responsibility, and reward. For centuries, patent systems have been grounded in a human centered model of invention, one that links inventorship to mental conception, intentional problem solving, and the legal and moral accountability of a natural person. This model has traditionally served not only as a mechanism for allocating exclusive rights, but also as a means of encouraging disclosure, promoting innovation, and legitimizing monopoly grants through a clear connection between human ingenuity and legal protection. The rapid development of increasingly autonomous AI systems, however, challenges these foundational premises in a manner that can no longer be regarded as merely theoretical or peripheral. AI technologies are now capable of generating complex technical solutions that meet established patentability criteria, including novelty, inventive step, and industrial applicability, yet the legal framework remains firmly anchored in the assumption that invention is an inherently human

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act.

Judicial and administrative responses across leading patent jurisdictions have been notably consistent in reaffirming this human centered approach. Authorities such as the United States Patent and Trademark Office, the European Patent Office, and the UK Supreme Court have each concluded that, under current statutory regimes, the designation of an inventor is limited to natural persons. These decisions do not deny that AI systems can play a significant, and in some cases decisive, role in the inventive process. Rather, they emphasize that existing patent laws are structurally designed around concepts of human agency, legal personality, and accountability, all of which presuppose a human inventor capable of bearing rights and obligations. Courts have repeatedly signalled that extending inventorship to artificial intelligence would constitute a substantive policy shift that lies beyond the scope of judicial interpretation and squarely within the domain of legislative authority.

The DABUS litigation has therefore functioned less as a catalyst for immediate legal change and more as a moment of doctrinal illumination. It has exposed the extent to which core elements of patent law such as legal personhood, ownership of rights, disclosure duties, and mechanisms for enforcement are premised on the existence of a human inventor. At the same time, the litigation has highlighted the growing tension between established legal doctrine and contemporary technological realities. As AI systems become increasingly capable of operating without direct human intervention, attributing inventorship to a human who did not meaningfully conceive the invention risks transforming inventorship into a formalistic legal fiction. Conversely, a categorical refusal to recognize or protect AI generated inventions may undermine the objectives of the patent system by discouraging disclosure, reducing transparency, and incentivizing reliance on trade secrets, thereby potentially stifling downstream innovation and public access to technical knowledge.

Proposed reform models demonstrate that any attempt to accommodate AI within patent law necessarily involves difficult trade offs. Treating a human developer, user, or controller as a deemed inventor preserves continuity and administrative simplicity, but stretches the traditional understanding of inventorship beyond its conceptual limits. Allocating patent rights on the basis of ownership or control of the AI system aligns more closely with economic and investment based rationales, yet further weakens the normative link between creative contribution and legal reward. Alternatively, the introduction of a sui generis regime

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for AI generated inventions avoids distorting established patent doctrines, but raises concerns regarding legal complexity, fragmentation, and international harmonization. Each of these approaches reflects different policy priorities, including doctrinal coherence, innovation incentives, fairness in attribution, and practical enforceability.

What emerges most clearly from this analysis is the urgent need for legislative clarity and forward looking policy engagement. Patent law cannot indefinitely rely on interpretive frameworks developed in an era when invention was inseparable from human intellect and agency. Lawmakers must confront the question of whether the concept of inventorship should be redefined, supplemented with alternative protection mechanisms, or reaffirmed as exclusively human while being supported by complementary regulatory and innovation policies tailored to AI generated outputs. The resolution of this issue will shape not only the future trajectory of patent doctrine, but also the broader relationship between law, emerging technologies, and the evolving role of human agency in the innovation ecosystem.

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