

INVENTORSHIP AS ACCOUNTABILITY IN THE INDIAN PATENT LAW: AI-GENERATED INVENTIONS CHALLENGING THE HUMAN-CENTRIC FOUNDATIONS

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Abstract

The Rapid development of Artificial Intelligence (AI) in the inventive process has fundamentally challenged the human-centric foundations of patent law across various jurisdictions, including India. Using a doctrinal research methodology with an analytical research plan and qualitative methods, this study intends to evaluate the scope of Indian Patent law in dealing with the challenges of AI-generated inventions, specifically with reference to inventorship under the law. The current patent law in India presumes inventorship as an exclusive human endeavor, closely linked to the idea of creativity, moral agency, and legal accountability. However, the creation of novel and non-obvious inventions by autonomous and semi-autonomous AI systems raises questions about these human-centric foundations. The paper evaluates the concept of inventorship as a mechanism of accountability and investigates whether existing legal framework can accommodate AI-generated inventions without impacting the core principles of patent jurisprudence. This study evaluates a critical look at the doctrinal gaps and normative tensions arising from the complete exclusion of AI-generated inventions from patent consideration thereby creating legal uncertainty, false inventorship claims, innovation stagnation. This does not imply that AI system should be granted inventorship. Instead, this study proposes a recalibration of Indian patent law to fit the changing reality of technological innovation and transparently recognize the role of AI as a tool or contributor in the inventive process.

Key words: Artificial Intelligence, Indian Patent law, Inventorship, legal Accountability

INTRODUCTION

Over the past ten years, Artificial Intelligence (AI)¹ has gained swift and rapid development². Artificial Intelligence refers to the replication of human cognitive processes by machines, particularly computer systems.³ Technologies such as machine learning (ML), natural language processing, and computer vision are progressively infiltrating numerous fields and facets of our society. AI is progressively assuming roles traditionally performed by humans and substituting human decision-making.⁴ As AI systems become increasingly sophisticated and capable of generating original works of art, literature, and music as well as contributing to groundbreaking inventions across various fields, the legal frameworks governing intellectual property face unprecedented challenges. This rapid development of AI technologies, such as DABUS AI, DeepMind's Alphafold, and IBM AI generated chemical compounds, has ushered in a new era of innovation, challenging traditional notions of creativity and human-centric Foundations of Indian patent law. However, the exact legal implications of AI in India are unknown at present, and the patent regime is also silent on the matter. Whether the present standards under the Patent Act, 1970 promotes or stifle these technologies is a question that has been grappled with in India.

Indian Patent law, as embodied in The Indian Patent Act, 1970, treats inventorship as an exclusively human endeavor because inventorship not only serves as a mechanism for attribution but also acts as a locus of responsibility. However, when inventions are generated by AI Systems the foundational assumption that an identifiable human inventor can be held liable becomes a part of debate.

This paper evaluates whether the existing legal framework is equipped to address the challenges posed by AI-generated inventions. Additionally, it examines comparative international approaches and considers the need

¹ Hereinafter referred as AI in the Document

² Shilpi Rani, Abuzar Zeya, Artificial Intelligence and Inventorship: Redefining Patent Law in the Age of AI, International Journal for Multidisciplinary Research (IJFMR), E-ISSN: 2582-2160, (2025), <https://www.ijfmr.com/papers/2025/4/49915.pdf>

³ Antara Roy, Artificial Intelligence With Law In India, vol 12, IJCRT, a80, 2024, <https://ijcrt.org/papers/IJCRT2401013.pdf>

⁴ Changwu Huang et al., An Overview of Artificial Intelligence Ethics, vol. 4, IEEE, 1, IEEE transactions on artificial intelligence, no. 4, august 2023.

for interpretive or legislative reforms to ensure that patent law maintains a balance between innovative incentives with legal certainty and accountability in future.

1.1. Objectives:

- To examine the human-centric approach of Inventorship under the Indian Patent law.
- To critically analyze whether existing Patent Act can accommodate the AI-generated inventions.
- To identify the problems arising from the complete exclusion of A- generated inventions.
- To propose a recalibrated approach without disrupting accountability and Patent Jurisprudence.

1.2. Research Methodology:

Using a doctrinal research methodology with an analytical research plan and qualitative methods, it intends to evaluate the scope of the Indian Patent law dealing with the challenges of AI-Generated inventions, specifically with reference to inventorship under the law.

CONCEPTUAL FOUNDATION OF INVENTORSHIP

A patent is one of the aspects of Intellectual Property, which limits the rights of others and gives the sole right over the invention to the holder.⁵ Before a patent is granted, the patentee must describe in the patent application, the invention with such clarity and completeness of all the technical details that anyone having ordinary skill in the art should by merely reading the description be able to carry out invention.⁶ Therefore, when a patent application is made it is a matter of primary importance to settle the question of inventorship.

As far as the Section 6 of the Indian Patent Act is concerned, it outlines the conditions under which an individual can apply for a patent. The applicants of a patent should be the “true and first inventor” of the invention, as per section.6(1)(a) of the Indian Patent Act,1970. Nevertheless, the Act does not clearly define the term “inventor” or “inventorship” and leaves room for subjective interpretations⁷ which can be clearly understood from the Section.2(1)(y), “true and first inventor”, it does not include either the first importer of an invention into India or a person to whom an invention is first communicated from outside India.

It is essential to determine the question of inventorship when there are multiple contributors to an invention. In V.B. Mohammed Ibrahim v. Alfred Schafnek,⁸ the court held that “since the plaintiff has not contributed any part of his ingenuity or skill or technical knowledge towards the invention and only for the act of financial contribution for running the experiments, the plaintiff could not be considered as the inventor.” Also, the court observed that “neither a corporation nor a financial partner can be the sole inventor and only the natural person who contributes their skill and knowledge to the innovation can legally claim the inventorship.”⁹

Further, in case of National Institute of Virology v. Mrs. Vandana S. Bhide,¹⁰ the Controller of Patents determined the question relating to “who is the inventor”, and stated that certain factors need to be considered while determining the inventorship, it includes¹¹:

- The person must have made an intellectual contribution to achieving the final results of the invention.
- If a person has not contributed to the development of an invention, they shall not be entitled to be considered an inventor.
- In case the inventor takes the help of another person for the purpose of conducting experiments, or constructing apparatus without any intellectual contribution, such person is not to be considered as the inventor.

Thus, the Indian patent act,1970 is conspicuously silent on the question of non-human inventorship. While the act does not expressly prohibit AI from being named as an inventor, but its consistent use of anthropocentric terminologies such as “person”, “he” and “true and first inventor” reflects a clear legislative intent to confine inventorship to natural persons.¹² Furthermore, when considering the principles of statutory interpretation, the lack of any enabling provision for non-human inventorship is important. Under the doctrine of **expressio unius est exclusio alterius**, the explicit recognition of human inventors implies the exclusion of non-human entities.¹³ Therefore, This lack of legislative action suggests that parliament neither contemplated nor aimed to include machine-generated inventions during the initial drafting or in subsequent amendments.

⁵ World Intellectual Property Organization, “What is a Patent? (WIPO) <https://www.wipo.int/patents/en/>, last accessed on 31 march 2026, 07.00 AM

⁶ VK Ahuja, Law relating to Intellectual Property Rights, 482-490, (3rd ed., Lexis Nexis, 2019)

⁷ Arya Verma, artificial intelligence as an inventor: rethinking patent law and patent eligibility, Volume VII Issue V ,Indian Journal of Law and Legal Research, 3996-4009(2025)

⁸ AIR1960 KANT 173

⁹ Raghuwanshi, R. B. R. A. S. S., & Law, L. (2023, April 15). AI Generated Inventions, Indian Patent Act, DABUS, United States Patent & Trademark Office, European Patent Office. Live Law.(Jan 10th, 2026, 2.34 P.M.) <https://www.livelaw.in/articles/artificial-intelligence-in-patent-law-253594>

¹⁰ National Institute of Virology vs Mrs. Vandana S. Bhide, Pre-grant Opposition before the Controller of Patents in the matter of Patent Application 581 /BOM/ 1999

¹¹ Dr. Deepak Kumar Srivastava, Artificial intelligence and patent law: analyzing patentability of ai-generated works, Volume 63, Part 1, Panjab University Law Review ISSN: 0971-5541, pp. 1-13.

¹² P. Narayanan, Patent Law (4th ed., Eastern Book Company, 2017)

¹³ G.P. Singh, Principles of Statutory Interpretation,99-126, (14th ed., lexisnexis, 2016)

Thus, judicial interpretations reveal that inventorship in Indian patent law is not merely about attribution, but also about identifying a responsible human agent¹⁴ behind the invention.

HUMAN-CENTRIC FRAMEWORK OF INDIAN PATENT LAW

At the core of Indian Patent law lies the notion that an invention is the product of human mental effort.¹⁵ Although the Patents Act, 1970 does not explicitly define “inventor” as a natural person¹⁶, the language employed throughout the act presumes a human agent capable of cognition, intention, and creativity. Terms such as “True and first inventor” historically emphasize originality arising from human ingenuity rather than mechanical or automated processes. Furthermore, this human-centric approach of inventorship is reinforced by the moral dimension of patent law. Inventorship operates as a form of recognition and reward for intellectual labour¹⁷, aligning with John Locke’s labour theory¹⁸ and personality based justification of intellectual property. The naming of an inventor is not purely procedural requirement but a symbolic acknowledgement of human creativity¹⁹ and contribution.

Additionally, Section 2(1)(s) defines a ‘person’ as including the government or other legal entities, thereby enabling companies or institutions to be patent applicants or assignees. However, this inclusivity does not extend to inventorship.²⁰ Courts have maintained that only natural persons qualify as inventors under Indian Law. In *Som Prakash Rekhi v. Union of India*²¹ the Supreme Court emphasized the doctrinal premise that an inventor must be capable of bearing legal rights and duties.

When we look at the moral rights in patents, it recognizes the inventor’s identity as an integral to the legitimacy of the patent ownership and enforcement. However, this moral underpinning loses coherence when applied to AI-generated inventions, as AI systems cannot experience recognition, incentives, or reputational benefits..

Another key human-centric assumption is the presence of intentionality and causation in invention which can be analysed from the definition of “inventive step” under Section 2(1)(ja). This standard presupposes human cognitive assessment, judgment, and problem-solving, thereby reinforcing the assumption that inventorship flows from human mental effort rather than autonomous machine activity.²² Indian Patent law presumes that an inventor consciously engages in problem-solving, makes choices, and directs the inventive process towards a particular technical outcome. The causal link between human invention and inventive output forms the basis for identifying inventorship in patent law.

1.1. Application of John Locke Theory In Indian Patent Law:

Locke’s theory. When applied to Intellectual property, it is argued that producing intellectual works requires a significant amount of mental work, which supports the creator’s exclusive right to their creations. The process of developing ideas, inventions, or creative works requires cognitive effort, skill development, and time investment which constitute “labour” in the Lockean sense.²³ The lockean emphasis on meaningful labour that turns resources into something valuable is reflected in the Indian Patent Act’s requirement for inventive step and industrial applicability. Mere discovery without inventive labour typically does not qualify for patent protection.²⁴

1.2. Application of Hegelian Personality Theory in Indian Patent law:

According to this theory, any invention or work done by its inventor or author belongs to him or her because it depicts his or her personality. This personhood justification of intellectual property derives mostly from Hegel’s philosophy of rights. Today even music, arts and animations etc. are generated through computers. But, this automation does not completely polish off human expression or personality from creation of information.²⁵ However, in the case of autonomously generated AI inventions, the Hegelian justification loses coherence, as artificial intelligence systems lack legal personality, self-expression, and moral agency.

¹⁴ *Shining Industries v. Shri Krishna Industries*, AIR 1975 All 231

¹⁵ B.L. Wadhera, *Law Relating to Intellectual Property*, 68, (5th ed., universal law publishing, 2016)

¹⁶ Kan and Krishme attorney at law, is AI next Inventor?, (jan 2, 2026, 10.04 AM) <https://kankrishme.com/is-ai-the-next-inventor/>

¹⁷ *ibid*

¹⁸ The law institute, labour and Ownership: Locke’s Intellectual Property Rights Theory, last updated on December 4, 2023, <https://thelaw.institute/general-introductions-to-ip-rights/locke-intellectual-property-rights-theory/>

¹⁹ *Enercon (India) Ltd v. Aloys Wobben*, AIR 2014 SC 2210

²⁰ Choudhary Mayur, *Artificial Intelligence Created Inventions and Patent Laws _ Recent Trends in Major Jurisdictions of the World with Special Reference to India*, 2025, NLU Bhopal, <http://hdl.handle.net/10603/676060>

²¹ (1981) 1 SCC 449

²² Bulat, N. (2026). When it comes to the use of AI in the inventive process: Is there room to confirm the subjective inventorship standard in a world of objective patentability criteria? *The Journal of World Intellectual Property*. <https://doi.org/10.1111/jwip.70019>

²³ Labour and Ownership: Locke’s Intellectual Property Rights Theory, the law.institute, <https://thelaw.institute/general-introductions-to-ip-rights/locke-intellectual-property-rights-theory/>

²⁴ *ibid*

²⁵ Abhay Raj Mishra1 & Rishabh Shukla, approaches to intellectual property: a pluralistic account, *E- Journal of Academic Innovation and Research in Intellectual Property Assets (E-JAIRIPA)*, Vol. III (ISSUE II) JULY-DEC 2022, Pg. 29-42.

ARTIFICIAL INTELLIGENCE IN THE INVENTIVE PROCESS

The increasing capability of AI systems to autonomously produce technical solutions introduces a challenges to the foundation of patent law, particularly in relation to inventorship.²⁶ With the advancement of AI system that can generate inventions independently or with minimal human involvement, several important legal questions arises. One such issue is how the patent system would treat inventions generated by AI if they cannot be attributed as natural person. Further, this uncertainty could deter investment in AI related research work.²⁷

1.3. What is Artificial Intelligence ?

For the first time, The American Cognitive Scientist, McCarthy, coined the term “Artificial Intelligence”²⁸ in the year 1956.²⁹ The term Artificial Intelligence(AI) includes any technology that can function like a human mind.³⁰ AI engages in activities that requires human intelligence.³¹ As per the white paper released by Niti Ayog of India in 2018, “AI is a constellation of technologies that enable machines to act with higher levels of intelligence and emulate the human capabilities of sense, comprehend and act”.³² In other words, the simulation of human intelligence processes by machines, particularly computer systems, is known as artificial intelligence.³³ Artificial Intelligence is nothing but human intelligence in machines. AI creates data, modify them, summarize them, arrange them, store them and protect and secure them in electronic devices. According to an issues paper published by the World Intellectual Property Organisation (WIPO), artificial intelligence is “a discipline of computer science that is aimed at developing machines and systems that can carry out tasks considered to require human intelligence, with limited or no human intervention”.³⁴ Thus, In this mechanism, the machines are trained in such a way as that it learn, adapt, and function through experience.

1.3.1. What is an AI-Generated Invention?

Definition: Inventions made autonomously by AI, without human input are called AI-generated Invention.³⁵ In other words, AI systems generate outputs with minimal or no human input, making it difficult to identify a human who can be legally recognized.³⁶ Referring to famous judgement of the Painer case, AI systems, even if they are more autonomous than a camera, can ultimately still be seen as devices used by humans to create works. This is because they still require at least some degree of human interaction.³⁷ AI systems can be programmed to perform complex actions and produce sophisticated outputs in ways that cannot be accurately anticipated, understood or explained by the user of the system.³⁸

Example: The DABUS applications, in which an AI system was claimed to have generated new inventive concepts.³⁹

1.4. Role of AI in the Inventive Process

AI is being used to support innovative processes in many fields such as space, healthcare, energy, automobiles etc. To better understand the AI driven processes, it is essential to distinguish between AI-assisted and AI-generated inventions. In the former, human inventors use AI tools as aids in data analysis or ideation. The inventive step is still attributable to a human mind. In the latter, AI system generate outputs with minimal or no human input, making it difficult to identify a human who can be legally recognized as the inventor.⁴⁰ However, the patent examination of the claimed AI invention poses various challenges, such as determining who the inventor is. Whether the claimed invention fulfils the patent requirements such as novelty, non-obviousness

²⁶ Zech, H. (2025). *AI and Patents: The Role of Inventorship*. Oxford University.

<https://doi.org/10.1093/oxfordhb/9780198940272.013.0027>, Fraser, E. (2016). Computers as Inventors – Legal and Policy Implications of Artificial Intelligence on Patent Law. *SCRIPTed*, 13(3), 305–333. <https://doi.org/10.2966/scrip.130316.305>.

²⁷ Srijan Vishwakarma, “understanding the influence of AI tools like chatgpt on Intellectual Property Regulations in India.” 5 *Jus Corpus LJ* 176(2024).

²⁸ here referred as AI.

²⁹ Chemmlar S, AI and legal implications, *National Law school Journal*, Volume 14 issue 1,

<https://repository.nls.ac.in/cgi/viewcontent.cgi?Article=1384&context=nlsj>

³⁰ Dr. Deepak Kumar Srivastava, Aryan Kare, artificial intelligence and patent law: analyzing patentability of ai-generated works, *Panjab University Law Review* ISSN: 0971-5541, Volume 63, Part 1, pp. 1-13,

³¹ Ibid.

³² See the white paper titled ‘National Strategy for Artificial Intelligence’ available at <https://www.niti.gov.in/sites/default/files/2023-03/National-Strategy-for-Artificial-Intelligence.pdf>.

³³ Antara Roy, Artificial Intelligence With Law In India, *IJCRT*, vol 12, 2024, <https://ijcrt.org/papers/IJCRT2401013.pdf>

³⁴ paper on IP Policy and AI available at, last accessed on 07 January 2026, 14.29 PM

https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_ai_2_ge_20/wipo_ip_ai_2_ge_20_1_rev.pdf,

³⁵ AI Inventions, WIPO Conversations IP and Frontier Technologies, <https://www.wipo.int/documents/d/frontier-technologies/docs-en-pdf-wipo-ai-inventions-factsheet.pdf>, last accessed on 10 April 2025, 08.10Am

³⁶ Abhilasha Nautiyal, Can Artificial Intelligence be an Inventor? An Indian Perspective, *SpicyIP* (2nd January, 2025), <https://spicyip.com/2021/06/can-artificial-intelligence-be-an-inventor-an-indian-perspective.html>.

³⁷ Johannes Fritz, Understanding authorship in Artificial Intelligence-assisted works, *Journal of Intellectual Property Law & Practice*, Volume 20, Issue 5, Pages 354–364, May 2025, <https://doi.org/10.1093/jiplp/jpae119>

³⁸ P Bernt Hugenholtz and João Pedro Quintais, ‘Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?’ 52 *IIC-Int Rev Intell Prop Compet Law* 1190, 1202 (2021)

³⁹ Ibid.

⁴⁰ Rakshit sharma, patentability of ai-generated inventions: rethinking inventorship in indian patent law, volume 8, issue 3, *International journal of law management & humanities, IJLMH*.

and inventive steps, and what degree of AI is used in the claimed invention?⁴¹ How AI will be treated in patent law depends on various factors, such as whether the AI tool merely assists a human inventor, or it is fully autonomous and performs its task without human support. Most countries reject patent applications requesting AI as an inventor. The reason is that AI still largely depends on human computational training and hence, it lacks original inventorship or legal capacity to own property.⁴²

1.5. Statutory Conflict with AI Generated Inventions:

The following section or statutory provisions within the Indian Patent Act, 1970 are critical to understanding the legal framework applicable to AI-Generated inventions.

The Section.2(1)(j) defines an Invention as “a new product or process involving an inventive step and capable of industrial application.”⁴³This statutory provision encompasses three key requirement:

- Novelty: It requires an invention to be new in the sense that on the date of filing of patent application, it should not form a part of the state of the art. The State of art comprise all matter made available to public before the priority date of the invention by written or oral description, by use or in any other way⁴⁴
- Inventive Step: the inventions must entail a technical advance over existing knowledge or have economic significance or both, and must not be obvious to a person skilled in the art.⁴⁵
- Industrial Applicability: The invention must be capable of being made or used in an industry.⁴⁶

These conditions are sine quo non for the registration of patent. The questions arises whether AI is included under ambit, as machines have no legal rights. In AI-related cases, assessing whether a solution is obvious becomes complex if the AI system contributes a non-intuitive feature. Courts and examiners may have to grapple with whether the skilled person is assumed to have access to AI tools or not.⁴⁷ Even, at present, no case laws or statutes consider the “computer program” or AI to be inventor of the invention.

In addition, the Indian patent system places significant emphasis on the inventive step and the disclosure requirement. An invention must not be obvious to a person skilled in the art and the complete specification must disclose the method by which the inventions works.⁴⁸When the invention is generated by an AI system, questions arise regarding whether the AI itself conceived the idea or merely possessed instructions given by a human. This complicates the issue of who fulfils the role of the “true and first inventor”⁴⁹.

Hence, this statutory silence, coupled with the Act’s anthropocentric language, creates a direct conflict between emerging technological realities and existing legal assumptions regarding inventorship and accountability.

INVENTORSHIP AS ACCOUNTABILITY: THE CORE CHALLENGE

AI system, particularly those employing deep learning and neural networks, frequently function as opaque entities such as black boxes, producing results through complex, non-linear processes that are not easily explainable.⁵⁰ This opacity poses challenges in fulfilling disclosure obligations, complicating the task for patent examiners to determine if the invention is adequately detailed.⁵¹

Examples are as follows:

- Dabus AI system: created by Dr. Stephen Thaler, this AI independently generated a unique food container and an innovative light- flashing device⁵²
- Deepmind’s AlphaFold: used AI to solve protein-folding problems, leading to breakthroughs in medicine and drug discovery.⁵³
- IBM’s AI-generated Chemical Compounds: AI has designed novel chemical structures with potential pharmaceutical applications.⁵⁴

In the context of AI generated inventions, it is unclear who should be named as the inventor or owner. Should it be the software developer who created the AI system, the organization that trained it or the individual who

⁴¹ Saw and Chan, “Of Inventorship and Patent Ownership: Examining the Intersection Between Artificial Intelligence and Patent Law” Singapore Journal of Legal Studies 27, 29-30(2023)

⁴² Olasupo Owuoye and Omolara Ajayi, “Artificial Intelligence and the Patentability of AI Inventions” 45(4) European Intellectual Property Review 228, 229(2023)

⁴³ Patent Act, 1970, s.2(1)(j)

⁴⁴ A similar provision may also be found in Article 54 of the European Patent Convention 1973

⁴⁵ Patent act, s.2(1)(ja)

⁴⁶ Patent act, s.2(1)(ac)

⁴⁷ ibid

⁴⁸ Rakshit sharma, patentability of ai-generated inventions: rethinking inventorship in indian patent law, international journal of law management & humanities, volume 8, issue 3, issn 2581-5369, 2025

⁴⁹ Srividhya Ragavan & Feroz Ali, Standard of Inventorship in Indian Patent Law: AI’s Imminent Challenge, 13 NUJS L. Rev. 1, 8–9 (2020)

⁵⁰ Surabhi Sharma, The Black Box of AI and the Problem of Patent Disclosure, 25 J. Intell. Prop. Rts. 321, 322 (2020)

⁵¹ WIPO, Artificial Intelligence and Intellectual Property Policy, https://www.wipo.int/aboutip/en/artificial_intelligence/.

⁵² Thaler, S., DABUS and AI inventorship: The legal battle for machine creativity. Journal of Artificial Intelligence and Law, 15(2), 201–222. (2022)

⁵³ Jumper, J., Evans, R., Pritzel, A., & Hassabis, D.. Alphafold: Solving the protein folding problem with AI. Nature, 596(7873), 583–589(2021)

⁵⁴ Ahn, S., Kim, J., & Lee, C. AI-assisted drug discovery: Patent considerations and legal challenges. Nature Biotechnology, 41(1), 45–58. (2023)

operated it for a specific task?⁵⁵ Each of these parties may have played a role in the invention's genesis, but none may meet the traditional threshold of conception of the inventive idea.⁵⁶ Beyond legal complexities, AI generated inventions raise ethical concerns regarding accountability. If no human is held accountable for the creation of invention, it creates vacuum for assigning liability for its defectiveness.⁵⁷ It means legal rights and duties presupposes a natural person capable of accountability is necessary.⁵⁸ This creates practical complications for assigning accountability for implications for the invention created.

COMPARATIVE PERSPECTIVE AMONG VARIOUS JURISDICTIONS:

In order to understand the ongoing development and status of artificial intelligence to get the recognition around world, it is essential to understand what view the major economies of the world hold rightnow.

Name of the Country	Inventorship (AI as Inventorship?)
United States of America	No. Only natural persons can be Inventor ⁵⁹
United kingdom	No. Only Natural person can be inventor ⁶⁰
South Africa	Yes. Only jurisdiction that has officially granted a patent naming DABUS as the inventor. ⁶¹
China	No. But having progress to grant such inventions ⁶²
Australia	No. AI-generated inventions will not be eligible for patent protection in Australia, unless human inventorship can be established. ⁶³

Thus, Based on the comparative analysis, the following problem/implications can be identified:

- i. Will the investment in AI be disincentivized?⁶⁴
- ii. Will the lack of legal protection to AI generated inventions reduces its future growth?
- iii. Will lack of appropriate legal rules/statutes discourages AI driven inventions?
- iv. Does providing patent protection increase AI driven research and development?⁶⁵
- v. Would AI inventions best be incentivized with a new sui generis IP right?⁶⁶

POLICY CONSIDERATIONS AND REFORM PROPOSALS:

Based on the finding of this study, a prospective policy framework is proposed, which seems suitable at the moment considering various aspects to bridge critical gaps as well as taking into consideration the growth of AI in upcoming years. This paper proposes an Inventorship as "Risk based Innovation Inclusive Model". Under this model, inventorship is conceptualized not only as a reward for creativity, but also as a mechanism for allocating legal responsibility.

- The model proposes to consider AI as Co-inventor⁶⁷, ensuring Human (human actor best positioned to control or prevent and manage the legal risk associated with the patent) remains accountable for ethical and legal concerns.
- Proposes new classification of Patent Protection, typically given for 20 years, of shorter duration (e.g of less than 10 years) in order to protect from complete resistance to the future growth of AI.
- Propose New Category- "AI Invention" including all its sub types as per category given by WIPO Conversation IP and Frontier Technologies⁶⁸

⁵⁵ ibid

⁵⁶ Srividhya Ragavan & Feroz Ali, Standard of Inventorship in Indian Patent Law: AI's Imminent Challenge, 13 NUJS L. Rev. 1, 3 (2020).

⁵⁷ Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law 114–18 (2020)

⁵⁸ *som prakash rekhi vs union of india, (1980) is (1981) 1 SCC 449*

⁵⁹ U.S. Patent & Trademark Office, Decision on Petition, Appl. No. 16/524,350 (Apr. 27, 2020)

⁶⁰ U.K. Intellectual Prop. Off., Patent Decision: BL O/741/19, Decision of the Comptroller (Dec. 4, 2019).

⁶¹ South African Patent No. 2021/03242 (July 28, 2021)

⁶² CNIPA, Annual Report 2022: Advancing AI-related Patent Practice, <http://english.cnipa.gov.cn/>.

⁶³ AI Created Inventions or Works – Are They Protected by Australian IP Laws? - Stephens Lawyers & Consultants' (Stephens Lawyers & Consultants 23 May 2022)

⁶⁴ AI Inventions, WIPO Conversations IP and Frontier Technologies, <https://www.wipo.int/documents/d/frontier-technologies/docs-en-pdf-wipo-ai-inventions-factsheet.pdf>, last accessed on 31 march 2026, 07.00 AM

⁶⁵ Daniel Chibuike Okoro, An Intellectual Property Approach to the Use of Generative AI, 97-116, Vol 9. No. 4, World Journal of Innovation and Modern Technology E-ISSN 2756-5491, 2025.

⁶⁶ ibid

⁶⁷ ibid

- It proposes a threshold public interest assessment, under which AI-generated inventions that risk at monopolizing essential medicines, foundational machine intelligence or processes, or any matter of national importance along with consideration of Section.3 of Patent act, 1970 are excluded from patent protection.
- For the effective implementation, the Patent examiners and whole system of patent examination must be trained and developed with emerging technologies, machine learning system and assessment methods⁶⁹

Challenges:

- Resistance against shorter period of protection for AI inventions.⁷⁰
 - Disclosure process in the patent application would become complex and more time consuming.
- Thus, by associating inventorship with the ability to bear risk, this model upholds the human-focused principles of Indian Patent law to ensure accountability remains enforceable.

CONCLUSION

The emergence of AI generated inventions exposes a foundational tension with Indian patent law. The patent act, 1970 does not merely reward inventive output; it allocates responsibility and this architecture has been unsettled by AI generated inventions. As AI generated inventions are now not longer limited to assisting human inventors; they are capable of generating autonomously⁷¹ offers no scope to accommodate AI-generated inventions in existing laws thereby creating a significant legal and policy vacuum.⁷²

It is evident through the examination of Indian patent law, that the existing framework is not equipped to address the complexities of machine-generated innovation. The lack of legal recognition for non-human inventors, the emphasis on human mental conception, and procedural requirements such as declarations of inventorship all contribute to the exclusion of AI from the patent landscape.⁷³ At the same time, comparative insights from jurisdictions like the United States, the United Kingdom, Australia, and China show that this is a global challenge one that requires urgent and coordinated legal reform.⁷⁴

From a realist standpoint, AI is here to stay and we will most likely not see the end of it anytime soon. In addressing the clash between AI and any area, in this case between A.I and Intellectual Property, we need to create a balance and address how there can be mutual coexistence.⁷⁵ Accordingly, the proposed model reconceptualizes inventorship not as a question of authorship or machine personhood, but as a site of responsibility allocation. By subjecting AI-generated inventions to a threshold public-interest assessment particularly in relation to essential medicines, foundational technologies, and matters of national importance the model preserves the human-centric foundations of patent law while allowing for limited, normatively justified inclusion. In this framework, patent protection is not granted automatically but is contingent upon certain conditions, ensuring that exclusivity serves as a tool for fostering innovation instead of exerting control. The ultimate aim should be to keep the Indian patent system inclusive and progressive, capable of encouraging innovation in the era of intelligent machines, while also upholding transparency, legal clarity, and ethical responsibility.⁷⁶

BIBLIOGRAPHY

Books:

- [1] B.L. Wadhwa, Law Relating to Intellectual Property, 68, (5th ed., universal law publishing, 2016)G.P. Singh,
- [2] P. Narayanan, Patent Law (4th ed., Eastern Book Company, 2017)
- [3] Principles of Statutory Interpretation, 99-126, (14th ed., lexisnexis, 2016)
- [4] Stuart Russell and Peter Norvig, Artificial Intelligence-A Modern Approach, 22-68, (4th ed., Pearson, 2022).
- [5] VK Ahuja, Law relating to Intellectual Property Rights, 482-490, (3rd ed., Lexis Nexis, 2019)

⁶⁸ The WIPO Conversation is an open, inclusive, multi-stakeholder forum intended to provide stakeholders with a leading, global setting to discuss the impact of frontier technologies on all IP rights and to bridge the existing information gap in this fast moving and complex field.

⁶⁹ Ministry of Electronics & Information Technology, National Strategy for Artificial Intelligence #AIforAll (2018), <https://indiaai.gov.in/research-reports/national-strategy-for-artificial-intelligence>, 1st January, 2026

⁷⁰ ibid

⁷¹ Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law 103-05 (2020)

⁷² The Patents Act, No. 39 of 1970, §§ 2(1)(y), 6, India Code

⁷³ Abhilasha Nautiyal, Can Artificial Intelligence Be an Inventor? An Indian Perspective, spicity, last accessed on 08 march 2026, 14.29 PM <https://spicity.com/2021/06/can-artificial-intelligence-be-an-inventor-an-indian-perspective.html>.

⁷⁴ WIPO, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO Doc. WIPO/IP/AI/GE/20/1 REV. Pg.31-42 (May 21, 2020).

⁷⁵ Daniel Chibuike Okoro University of Uyo, Akwa – Ibom State, Nigeria, An Intellectual Property Approach to the Use of Generative AI, DOI: 10.56201/wjimt.v9.no4.2025.pg97.116, World Journal of Innovation and Modern Technology E-ISSN 2756-5491 P-ISSN 2682-5910 Vol 9. No. 4 2025 www.iiardjournals.org

⁷⁶ Ministry of Commerce & Industry, National IPR Policy, last accessed date 14 Jan, 2026, 15.31 PM https://dpiit.gov.in/sites/default/files/National_IPR_Policy_English.pdf.

Acts, Conventions, Policy:

- [1] China National Intellectual Property Administration, CNIPA, Annual Report 2022: Advancing AI-related Patent Practice, <http://english.cnipa.gov.cn/>.
- [2] National Strategy for Artificial Intelligence#AIFORALL, NITI Aayog, 2018 South African Patent No. 2021/03242 (July 28, 2021)
- [3] The European Patent Convention 1973
- [4] The Indian Patent Act, 1970
- [5] WIPO, Artificial Intelligence and Intellectual Property Policy

Judicial Decisions:

- [1] V.B. Mohammed Ibrahim v. Alfred Schafrnek, AIR 1960 KANT 173
- [2] National Institute of Virology v. Mrs. Vandana S. Bhide, (National Institute of Virology vs Mrs. Vandana S. Bhide, Pre-grant Opposition before the Controller of Patents in the matter of Patent Application 581/BOM/1999)
- [3] Shining Industries v. Shri Krishna Industries, AIR 1975 All 231
- [4] Enercon (India) Ltd v. Aloys Wobben, AIR 2014 SC 2210
- [5] Som Prakash Rekhi v. Union of India, (1981) 1 SCC 449
- [6] Thaler (Appellant) v. Comptroller-General of Patents, Designs and Trademarks (Respondent), UKSC/2021/0201
- [7] U.S. Patent & Trademark Office, Decision on Petition, Appl. No. 16/524,350 (Apr. 27, 2020)
- [8] U.K. Intellectual Prop. Off., Patent Decision: BL O/741/19, Decision of the Comptroller (Dec. 4, 2019)

Research Papers:

- [1] Abhay Raj Mishra¹ & Rishabh Shukla, approaches to intellectual property: a pluralistic account, E- Journal of Academic Innovation and Research in Intellectual Property Assets (E-JAIRIPA), Vol. III (ISSUE II) JULY-DEC 2022, Pg. 29-42.
- [2] Ahn, S., Kim, J., & Lee, C. AI-assisted drug discovery: Patent considerations and legal challenges. Nature Biotechnology, 41(1), 45–58. (2023)
- [3] Antara Roy, Artificial Intelligence With Law In India, IJCRT, vol 12, 2024, <https://ijcrt.org/papers/IJCRT2401013.pdf>
- [4] Arya Verma, artificial intelligence as an inventor: rethinking patent law and patent eligibility, Volume VII Issue V, Indian Journal of Law and Legal Research, 3996-4009(2025)
- [5] Bulat, N. (2026). When it comes to the use of AI in the inventive process: Is there room to confirm the subjective inventorship standard in a world of objective patentability criteria? The Journal of World Intellectual Property. <https://doi.org/10.1111/jwip.70019>
- [6] Changwu Huang et al., An Overview of Artificial Intelligence Ethics, vol. 4, IEEE, 1, IEEE transactions on artificial intelligence, no. 4, august 2023.
- [7] Chemmlar S, AI and legal implications, National Law school Journal, Volume 14 issue 1, <https://repository.nls.ac.in/cgi/viewcontent.cgi?Article=1384&context=nlsj>
- [8] Choudhary Mayur, Artificial Intelligence Created Inventions and Patent Laws _ Recent Trends in Major Jurisdictions of the World with Special Reference to India, 2025, NLU Bhopal, <http://hdl.handle.net/10603/676060>
- [9] CNIPA, Annual Report 2022: Advancing AI-related Patent Practice, <http://english.cnipa.gov.cn/>.
- [10] Daniel Chibuike Okoro, An Intellectual Property Approach to the Use of Generative AI, 97-116, Vol 9. No. 4, World Journal of Innovation and Modern Technology E-ISSN 2756-5491, 2025.
- [11] Dr. Deepak Kumar Srivastava, Artificial intelligence and patent law: analyzing patentability of ai-generated works, Volume 63, Part 1, Panjab University Law Review ISSN: 0971-5541, pp. 1-13.
- [12] Johannes Fritz, Understanding authorship in Artificial Intelligence-assisted works, Journal of Intellectual Property Law & Practice, Volume 20, Issue 5, Pages 354–364, May 2025, <https://doi.org/10.1093/jiplp/jpae119>
- [13] Jumper, J., Evans, R., Pritzel, A., & Hassabis, D., AlphaFold: Solving the protein folding problem with AI. Nature, 596(7873), 583–589(2021)
- [14] Legal and Policy Implications of Artificial Intelligence on Patent Law. SCRIPTed, 13(3), 305–333. <https://doi.org/10.2966/scrip.130316.305>
- [15] Olasupo Owoeye and Omolara Ajayi, “Artificial Intelligence and the Patentability of AI Inventions” 45(4) European Intellectual Property Review 228, 229(2023)

- [16] P Bernt Hugenholtz and João Pedro Quintais, 'Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?' 52 IIC-Int Rev Intell Prop Compet Law 1190, 1202 (2021)
- [17] Rakshit sharma, patentability of ai-generated inventions: rethinking inventorship in indian patent law, international journal of law management & humanities, volume 8, issue 3, issn 2581-5369, 2025
- [18] Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law 114–18 (2020)
- [19] Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law 103–05 (2020)
- [20] Saw and Chan, "Of Inventorship and Patent Ownership: Examining the Intersection Between Artificial Intelligence and Patent Law" Singapore Journal of Legal Studies 27, 29-30(2023)
- [21] See the white paper titled 'National Strategy for Artificial Intelligence' available at <https://www.niti.gov.in/sites/default/files/2023-03/National-Strategy-for-Artificial-Intelligence.pdf>.
- [22] Shilpi Rani, Abuzar Zeya, Artificial Intelligence and Inventorship: Redefining Patent Law in the Age of AI, International Journal for Multidisciplinary Research (IJFMR), E-ISSN: 2582-2160, (2025), <https://www.ijfmr.com/papers/2025/4/49915.pdf>
- [23] Srijan Vishwakarma, "understanding the influence of AI tools like chatgpt on Intellectual Property Regulations in India." 5 Jus Corpus LJ 176(2024).
- [24] Srividhya Ragavan & Feroz Ali, Standard of Inventorship in Indian Patent Law: AI's Imminent Challenge, 13 NUJS L. Rev. 1, 3 (2020).
- [25] Surabhi Sharma, The Black Box of AI and the Problem of Patent Disclosure, 25 J. Intell. Prop. Rts. 321, 322 (2020)
- [26] Thaler, S., DABUS and AI inventorship: The legal battle for machine creativity. Journal of Artificial Intelligence and Law, 15(2), 201–222. (2022)
- [27] U.K. Intellectual Prop. Off., Patent Decision: BL O/741/19, Decision of the Comptroller (Dec. 4, 2019)
- [28] U.S. Patent & Trademark Office, Decision on Petition, Appl. No. 16/524,350 (Apr. 27, 2020)
- [29] WIPO, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO Doc. WIPO/IP/AI/GE/20/1 REV. Pg.31–42 (May 21, 2020).
- [30] Zech, H. (2025). AI and Patents: The Role of Inventorship. Oxford University. <https://doi.org/10.1093/oxfordhb/9780198940272.013.0027>, Fraser, E. (2016). Computers as Inventors.

Websites and Articles

- [1] World Intellectual Property Organization, "What is a Patent? (WIPO) <https://www.wipo.int/patents/en/> last accessed on 3 january 2026, 17.05 PM
- [2] WIPO, Artificial Intelligence and Intellectual Property Policy, https://www.wipo.int/aboutip/en/artificial_intelligence/. last accessed on 31 march 2026, 07.00 AM
- [3] The law institute, labour and Ownership: Locke's Intellectual Property Rights Theory, last accessed on December 4, 2025, <https://thelaw.institute/general-introductions-to-ip-rights/locke-intellectual-property-rights-theory/>
- [4] paper on IP Policy and AI available at last accessed on 07 January 2026, 14.29 PM https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_ai_2_ge_20/wipo_ip_ai_2_ge_20_1_rev.pdf,
- [5] Ministry of Electronics & Information Technology, National Strategy for Artificial Intelligence #AIforAll (2018), <https://indiaai.gov.in/research-reports/national-strategy-for-artificial-intelligence>
- [6] Ministry of Commerce & Industry, National IPR Policy ,last accessed date 14 Jan, 2026, 15.31 PM https://dpiit.gov.in/sites/default/files/National_IPR_Policy_English.pdf
- [7] AI Inventions, WIPO Conversations IP and Frontier Technologies, <https://www.wipo.int/documents/d/frontier-technologies/docs-en-pdf-wipo-ai-inventions-factsheet.pdf> last accessed on 10 April 2025, 08.10Am
- [8] AI Created Inventions or Works – Are They Protected by Australian IP Laws? - Stephens Lawyers & Consultants' (Stephens Lawyers & Consultants 23 May 2026)
- [9] Abhilasha Nautiyal, Can Artificial Intelligence be an Inventor? An Indian Perspective, SpicyIP (June 2, 2021), <https://spicyip.com/2021/06/can-artificial-intelligence-be-an-inventor-an-indian-perspective.html>, last accessed on 08 march 2026, 14.29 PM