ARTIFICIAL INTELLIGENCE AS AN INVENTOR: RE-EVALUATING INVENTORSHIP UNDER INDIAN PATENT LAW

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ABSTRACT

Artificial intelligence (AI) has transformed the landscape of innovation by enabling machines to autonomously generate technological solutions. Traditional patent systems were designed with the assumption that inventors are human beings who contribute intellectual effort to the creation of inventions. However, modern AI systems can generate novel inventions without direct human intervention, raising significant legal questions regarding inventorship and patent ownership. This article critically examines whether artificial intelligence can qualify as an inventor under the Patents Act, 1970.

The article analyses the statutory framework governing inventorship in India, explores international developments in AI patent law, and evaluates the implications of recognizing AI as an inventor. Through doctrinal legal analysis and comparative study, the article argues that Indian patent law currently recognizes only human inventors. Nevertheless, rapid technological developments require policymakers to reconsider the concept of inventorship in order to ensure that patent law continues to incentivize innovation in the era of artificial intelligence.

Keywords: Artificial Intelligence, Patent Law, Inventorship, AI-generated inventions, Intellectual Property, Indian Patent Law.

1. Introduction

Technological innovation has always influenced the evolution of intellectual property law. Over the past decade, artificial intelligence has emerged as one of the most transformative technologies shaping modern economies. AI systems are capable of analysing large datasets, generating novel designs, and producing technical solutions that may qualify as patentable inventions.

The rise of AI-generated innovation challenges the traditional concept of inventorship. Patent law has historically assumed that inventors are natural persons who conceive inventions through intellectual effort. However, AI systems increasingly perform tasks that resemble human creativity.

These developments raise important legal questions:

- Can artificial intelligence be recognized as an inventor?
- Who owns inventions generated by AI systems?
- Should patent law be reformed to accommodate machine-generated innovation?

The global debate intensified following patent applications naming an AI system as the inventor. These applications prompted patent offices and courts worldwide to reconsider the definition of inventorship.

In India, patent law is governed by the **Patents Act, 1970**, which requires that a patent application identify the "true and first inventor." The statute does not explicitly address AI-generated inventions, leading to uncertainty regarding their legal status.

This article examines the challenges posed by AI inventorship and evaluates whether Indian patent law should be reformed to address emerging technological realities.

2. Concept of Inventorship in Patent Law

Inventorship is a fundamental requirement of the patent system. The identification of the inventor determines the ownership of patent rights and establishes the legal basis for patent protection.

Historically, patent law has recognized inventors as human beings who contribute to the

conception of an invention. The rationale behind this approach lies in the objective of the patent system—to encourage human innovation by granting exclusive rights for a limited period.

Under the **Patents Act, 1970**, the "true and first inventor" refers to the individual who contributes to the inventive concept of the invention. The statute implicitly assumes that inventors are natural persons capable of intellectual creativity.

The requirement of human inventorship is also reflected in international patent systems. For example, most patent regimes require the inventor's name and personal details to be disclosed in patent applications.

However, the emergence of AI-generated inventions has complicated this framework. Modern AI systems can autonomously generate technological solutions, making it difficult to attribute inventorship to a specific human individual.

3. Artificial Intelligence and the Innovation Ecosystem

Artificial intelligence refers to computer systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, and problem-solving.

Recent advances in machine learning and deep learning have enabled AI systems to generate novel inventions in fields such as:

- pharmaceuticals
- material science
- engineering design
- biotechnology

For instance, AI algorithms can analyse molecular structures and identify new chemical compounds that may serve as pharmaceutical drugs. These discoveries may satisfy the requirements of novelty and inventive step under patent law.

The ability of AI systems to generate inventions raises fundamental questions about the role of human inventors in the innovation process.

4. The DABUS Case and Global Debate on AI Inventorship

The global debate on AI inventorship gained prominence with patent applications involving an AI system known as DABUS. These applications listed the AI system as the inventor rather than a human individual.

Patent offices in multiple jurisdictions rejected these applications, holding that inventors must be natural persons. Courts in the United States, the United Kingdom, and Europe reached similar conclusions.

These decisions highlight the limitations of existing patent laws in addressing AI-generated inventions. While courts have rejected AI inventorship under current statutes, policymakers have acknowledged that legal reforms may eventually be necessary.

5. Indian Legal Framework on Inventorship

The **Patents Act, 1970** forms the primary legal framework governing patents in India. The Act requires that a patent application disclose the name of the inventor.

The statutory provisions indicate that inventorship is linked to human contribution. The requirement that the inventor sign declarations and provide personal information further supports the interpretation that inventors must be natural persons.

Indian patent law therefore does not currently recognize artificial intelligence as an inventor.

However, the absence of explicit provisions addressing AI-generated inventions creates uncertainty for innovators using AI technologies.

6. Legal and Policy Challenges of AI Inventorship

Recognizing artificial intelligence as an inventor presents several legal challenges.

6.1 Lack of Legal Personality

AI systems do not possess legal personality and therefore cannot hold rights or obligations. Patent law is based on the assumption that inventors can own and transfer rights.

6.2 Ownership of AI-Generated Inventions

If AI systems are recognized as inventors, determining ownership of patents becomes complex.

Potential owners may include:

- AI developers
- AI operators
- organizations that deploy AI systems

6.3 Accountability and Liability

Assigning responsibility for AI-generated inventions raises questions regarding liability and accountability.

6.4 Impact on Innovation Incentives

The patent system is designed to reward human creativity. Granting inventorship to machines may alter the incentive structure that underpins patent law.

7. Comparative International Perspectives

Several jurisdictions have begun exploring policy responses to AI-generated inventions.

In the United States, courts have held that inventors must be natural persons under patent law.

Similarly, the United Kingdom and European Union have rejected patent applications listing AI systems as inventors.

However, policymakers in many countries have initiated consultations on how patent law should evolve to address AI innovation.

8. Need for Legal Reform in India

As artificial intelligence continues to advance, Indian patent law may require reform to address AI-generated inventions.

Possible policy approaches include:

1. Recognizing human developers or operators as inventors of AI-generated inventions.
2. Introducing a new legal category for AI-assisted inventions.
3. Clarifying ownership rules for inventions generated using AI systems.

These reforms could help maintain the balance between innovation incentives and legal certainty.

9. Conclusion

Artificial intelligence represents a transformative force in the innovation ecosystem. The ability of AI systems to generate inventions challenges traditional concepts of inventorship in patent law.

The current framework of the **Patents Act, 1970** does not recognize artificial intelligence as an inventor, as inventorship is limited to natural persons. While this approach aligns with international practices, rapid technological developments may require legal reforms in the future.

A balanced regulatory approach is necessary to ensure that the patent system continues to encourage innovation while adapting to the realities of AI-driven technological progress.

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