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TITLE

“Rethinking India’s Intellectual Property Framework in the Era of Artificial Intelligence: A Doctrinal and Policy Study”

Abstract

Artificial intelligence has redefined creative and inventive activity by enabling computational systems to generate outputs traditionally associated with human intellectual effort. While these developments expand technological innovation, they also challenge the foundational assumptions of intellectual property law, which continue to privilege human agency. Indian copyright and patent regimes remain largely silent on the legal status of works and inventions produced through autonomous or semi-autonomous artificial intelligence systems, creating uncertainty regarding ownership, protection, and accountability. This paper undertakes a doctrinal and policy-oriented analysis of the challenges posed by artificial intelligence to India's intellectual property framework, with particular emphasis on authorship, inventorship, originality, and liability. It further examines the legal implications of data-driven AI training practices and the absence of explicit statutory recognition of text and data mining activities. By situating Indian legal responses within contemporary international policy discourse, the study argues for proactive legislative and regulatory reform. It concludes that a calibrated AI–IP policy framework is necessary to balance innovation, ethical governance, and the protection of human creativity in the digital era.

Keywords

Artificial Intelligence, Intellectual Property Law, Copyright, Patents, Policy Reform, India

Introduction

- **Artificial intelligence has altered the conditions under which creative and inventive outputs are produced. Contemporary AI systems are no longer confined to supporting human decision-making but are increasingly capable of generating expressive content, technical solutions, and functional designs through algorithmic processes. These developments raise foundational questions for intellectual property law, which has historically been constructed around human authorship and inventorship.**
- **Indian intellectual property statutes continue to reflect this anthropocentric (human centred) orientation. Neither the Copyright Act, 1957 nor the Patents Act, 1970 expressly contemplates the legal consequences of machine-generated outputs. As artificial intelligence becomes embedded in creative, industrial, and research practices, this legislative silence creates uncertainty regarding ownership, protection, and enforcement, necessitating systematic doctrinal and policy reconsideration.**

Methodology

- **This study adopts a doctrinal research methodology, analysing statutes, case law, academic scholarship, and policy documents. A comparative policy approach is used to situate Indian legal responses within international developments.**

Artificial Intelligence and the Transformation of Creativity

- **AI systems function by analysing vast datasets, identifying patterns, and generating outputs based on probabilistic models. Unlike traditional tools, modern AI systems can operate with minimal human intervention, raising fundamental questions about creative agency. From a legal standpoint, the distinction between AI-assisted and AI-autonomous creation becomes crucial.**
- **In the Indian context, the Copyright Act, 1957 defines an "author" as a natural person, while patent law presumes a human inventor. AI-generated outputs thus fall into a grey area, potentially remaining unprotected or ambiguously owned. This disconnect between technological capability and legal recognition forms the core challenge addressed in this paper.**

Challenges to Copyright Law

- **Authorship and Originality**

Indian copyright law requires originality rooted in human intellectual effort. AI-generated works, particularly those created without direct human input, challenge this requirement. Courts have not yet addressed whether AI outputs can satisfy the originality threshold, leaving creators and investors uncertain about protection.

- **Training Data and Copyright Infringement**

AI systems are trained on massive datasets that often include copyrighted works. The absence of clear exceptions for text and data mining in Indian law raises concerns regarding infringement, fair dealing, and consent. This issue has significant implications for AI research and innovation.

- **Ownership and Allocation of Rights**

Even if AI-generated outputs are deemed copyrightable, determining ownership presents a significant challenge. Traditional copyright frameworks allocate rights to natural persons such as authors or employers. In the context of AI, multiple stakeholders—including software developers, data providers, system trainers, and end-users—may contribute to the creation process. Indian copyright law does not clarify whether ownership should vest in the programmer, the user issuing prompts, or the entity deploying the AI system, leading to legal uncertainty and potential disputes.

- **Moral Rights and Non-Human Creators**

The Indian Copyright Act strongly recognizes moral rights under Section 57, including the right of paternity and integrity, which are inherently human-centric. AI-generated works challenge the conceptual foundation of moral rights, as artificial systems cannot claim reputational harm or assert personal connection to creative outputs. This raises questions about whether moral rights can subsist at all in AI-generated works and whether such rights, if any, can be attributed to associated human actors.

- **Liability for Infringement and Accountability**

AI systems may produce outputs that infringe existing copyrighted works without deliberate human intent. Assigning liability in such cases becomes complex, particularly where infringement results from autonomous system behaviour. Indian law lacks clarity on whether liability should rest with the AI developer, the deploying platform, the end-user, or be assessed under principles of vicarious or strict liability. This uncertainty complicates enforcement and risk management for AI-driven creative industries.

- **Fair Dealing and Limitations of Existing Exceptions**

Indian copyright law provides limited fair dealing exceptions for purposes such as research, private study, criticism, and review. However, these exceptions were not designed to accommodate large-scale automated data ingestion and analysis by AI systems. The absence of a specific text and data mining (TDM) exception constrains lawful AI development and places Indian researchers and enterprises at a comparative disadvantage vis-à-vis jurisdictions that have adopted broader AI-friendly exceptions.

- **Economic Impact on Human Creators**

The proliferation of AI-generated content raises concerns about market substitution and dilution of value for human-created works. AI systems capable of producing literary, artistic, and musical outputs at scale may undermine the economic incentives that copyright law seeks to protect. Indian copyright law does not yet address how to balance technological progress with the protection of livelihoods of authors, artists, and creative professionals.

- **Cross-Border Enforcement and Jurisdictional Issues**

AI systems often operate across jurisdictions, with training data, servers, developers, and users located in different countries. Enforcing copyright claims involving AI-generated works thus becomes jurisdictionally complex. Indian copyright law lacks mechanisms to address cross-border infringement effectively, particularly when infringing outputs are generated or disseminated by globally deployed AI systems.

Challenges to Patent Law

- **Patent law presents similar difficulties. The concept of inventorship under the Patents Act, 1970 is premised on human ingenuity (creativity). AI-generated inventions, particularly in pharmaceuticals, engineering, and software design, raise questions about whether AI can be recognised as an inventor or whether inventorship should be attributed to developers, users, or organisations.**
- **The lack of clarity may discourage patent filings or result in strategic misrepresentation of inventorship, undermining the integrity of the patent system.**

Policy and Regulatory Gaps in India

- **India currently lacks a comprehensive AI-specific intellectual property policy. While national AI strategies emphasise innovation and ethical governance, they do not adequately address IP ownership, liability, or enforcement in AI-generated outputs. In contrast, international bodies such as WIPO have initiated consultations on AI and IP, highlighting the need for harmonised yet flexible legal frameworks.**

Policy Recommendations and Legal Reforms

- This paper proposes the following reforms:

The rapid advancement of artificial intelligence necessitates a recalibration of India's intellectual property framework to ensure legal certainty without undermining innovation. Given the structural incompatibility between existing anthropocentric (human centric) IP doctrines and autonomous machine-generated outputs, incremental judicial interpretation alone is insufficient. A comprehensive policy response integrating legislative clarification, regulatory guidance, and institutional capacity-building is imperative.

- **Statutory Recognition of AI-Assisted and AI-Generated Works**

Indian intellectual property statutes should expressly distinguish between **AI-assisted works**, where human intellectual contribution is substantial, and **AI-generated works**, where human involvement is minimal or indirect. Such differentiation would prevent the blanket exclusion of AI outputs from protection while preserving the normative requirement of human creativity. Similar classification-based approaches have been discussed in international policy discourse and offer a flexible alternative to rigid definitions.

Rather than recognising artificial intelligence as a legal person, Indian law should attribute authorship or inventorship to the **human or legal entity exercising control over the AI system**, subject to demonstrable creative or inventive contribution

- **Human Contribution Threshold for Authorship and Inventorship**

A statutory or regulatory **"human contribution threshold"** should be introduced to determine eligibility for copyright and patent protection. This threshold must be qualitative rather than quantitative, focusing on intellectual decision-making rather than mere technical involvement. Such an approach aligns with Indian jurisprudence emphasising skill, labour, and judgment as the foundation of originality.

In the patent context, human contribution standards would also mitigate risks of misrepresentation and preserve the integrity of inventorship disclosures under the Patents Act, 1970.

- **Text and Data Mining (TDM) Exception for AI Training**

India should introduce a specific statutory exception permitting text and data mining for AI training purposes, subject to safeguards against commercial exploitation and market substitution. Current fair dealing provisions under the Copyright Act, 1957 are ill-suited for large-scale computational analysis and create uncertainty for AI developers.

The European Union's experience with TDM exceptions demonstrates that narrowly tailored statutory carve-outs can balance innovation incentives with copyright protection. A similar framework, adapted to India's socio-economic and technological context, would promote domestic AI research while safeguarding authors' rights.

- **Ownership and Liability Allocation Framework**

Clear rules must be developed to allocate ownership and liability in cases involving AI-generated outputs. In the absence of explicit statutory guidance, disputes regarding infringement, misuse, or harm caused by AI-generated content may proliferate. Ownership should presumptively vest in the individual or organisation deploying the AI system, unless contractual arrangements dictate otherwise.

Liability regimes should incorporate principles of algorithmic accountability, ensuring that developers and deployers remain responsible for foreseeable harms arising from AI-generated outputs.

❖ National AI–IP Policy Guidelines

India should adopt comprehensive **AI–IP Policy Guidelines**, harmonising intellectual property objectives with ethical governance, innovation policy, and constitutional values. Such guidelines could draw from international best practices while retaining flexibility to evolve alongside technological change. The World Intellectual Property Organization's (WIPO) consultative approach provides a useful reference model.

❖ Institutional Capacity Building

Judicial officers, patent examiners, and copyright administrators require continuous training in AI technologies and their legal implications. Without institutional preparedness, even well-crafted legislative reforms may fail in implementation. Capacity-building initiatives should therefore accompany substantive legal reform.

These reforms would promote innovation while preserving the human-centric foundation of intellectual property law.

Conclusion

- **Artificial Intelligence presents both an opportunity and a challenge for intellectual property law in India. The existing legal framework, designed for a human-centric creative process, is ill-equipped to address AI-driven innovation. An interdisciplinary law-and-AI approach is essential to develop adaptive, future-ready legal solutions. By adopting proactive legislative reforms and coherent policy guidelines, India can foster responsible AI innovation while safeguarding intellectual property rights in the digital age.**

THANK YOU ALL