
ARTIFICIAL INTELLIGENCE AND INTELLECTUAL PROPERTY RIGHTS: A COMPARATIVE ANALYSIS

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INTRODUCTION

Intellectual Property Rights (IPR) in India play a crucial role in protecting creativity and innovation. With a growing economy and advancements in technology, understanding these rights is more important than ever. This article explores the various aspects of IPR in India, including its legal framework, challenges, and future directions, while emphasizing the need for awareness and education. Artificial Intelligence (AI) has emerged as a revolutionary force in various domains, including healthcare, finance, and creative industries. With its ability to generate content, design innovations, and automate decision-making processes, AI is now intersecting with Intellectual Property Rights (IPR) in unprecedented ways. The traditional legal frameworks governing patents, copyrights, and trademarks were designed with human inventors and creators in mind. However, as AI-generated works become more prevalent, questions regarding authorship, ownership, and liability have surfaced. Can an AI be considered an inventor? Should AI generated content receive the same legal protections as human-created work? These are some of the pressing concerns that legal scholars and policymakers face today. This paper delves into the evolving landscape of AI and IPR in India, examining the challenges posed by AI-driven innovations and the opportunities for reform within the legal system. Artificial Intelligence (AI) is reshaping industries across the globe, and its impact on Intellectual Property Rights (IPR) is becoming increasingly significant. AI-driven innovations present new challenges and opportunities in the Indian legal framework, requiring a reassessment of traditional IP laws to accommodate emerging technologies. With AI generated content, automated patent examination, and predictive analytics, the integration of AI into IPR processes is transforming how intellectual property is created, protected, and enforced in India.

WHAT IS INTELLECTUAL PROPERTY RIGHTS?

Intellectual Property Rights (IPR) refer to the legal rights granted to individuals or

organizations based on intellectual property rights or intellectual creations. These rights allow creators and creators to control and exploit their creations or creations. Intellectual property rights are generally divided into several categories:

1. Copyright: Copyright protects the author's original work, such as literary, artistic, musical, and dramatic works. This includes books, pictures, songs and movies. Copyright gives creators the exclusive right to reproduce, distribute, perform, and display their work.¹
2. Patents: Patents protect inventions and inventions, giving the inventor the exclusive right to prevent others from making, using, selling, or importing the invention for a limited period of time, usually 20 years. To qualify for a patent, an invention must be novel, nonobvious and useful.²
3. Trademarks: Trademarks protect symbols, names, logos and slogans that distinguish goods or services from others. Trademark rights allow the owner to prevent others from using a confusingly similar mark in commerce, thereby protecting the reputation and goodwill associated with the mark.³
4. Trade Secrets: Trade secrets protect confidential information that gives a business a competitive advantage. This may include formulas, processes, techniques, or other information that is generally unknown or readily identifiable to others and is subject to reasonable efforts to maintain confidentiality.
5. Industrial Design: Industrial design maintains the visual appearance or decorative features of the product. The types used in this article may include configurations, patterns or decorations. Intellectual property rights play an important role in promoting innovation, creativity and economic growth by encouraging individuals and companies to invest time, resources and energy in creating new ideas, products and services. These rights also provide legal mechanisms to resolve disputes and enforce ownership of intellectual assets.⁴

WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial intelligence (AI) refers to computer systems capable of performing tasks that

¹ Copyright Act,1957

² Patent Act, 1970

³ Trademark Ac, 1999

⁴ Designs Act,2000

historically required human intelligence, such as speech recognition, decision making, or pattern recognition. It covers a wide range of technologies, including machine learning, deep learning and natural language processing (NLP). Let's dive deeper into what AI entails:

1. **Machine Learning (ML):** ML uses algorithms trained on data sets to create models that enable computer systems to perform tasks such as recommending songs, identifying optimal paths, or translating text between languages. For example, chatbots and recommendation tools are powered by ML.
2. **Deep Learning:** Deep learning, a subset of ML, involves neural networks with multiple layers. It excels at tasks such as image recognition, natural speech understanding, and speech synthesis. In particular, models like Chat GPT and computer vision rely on deep learning.
3. **Natural Language Processing (NLP):** NLP allows machines to understand and generate human language. Used in chatbots, language translation, sentiment analysis and more.

COMPARITIVE ANALYSIS OF AI QND IPR

Copyright and Ownership of AI Generated Content:

AI-generated content challenges notions of authorship that traditionally require human creators under copyright law, including works of literature, music, and visual arts. Key issues include:

- Works created by AI raise the question of who should be considered the author. Should the AI programmer be the user providing the AI, or the AI itself? This challenges traditional notions of creativity and originality.
- Determining copyright becomes complicated if AI cannot legally hold copyright. Potential ownership can be owned by AI creators, users, or treated based on salary.
- Most current copyright laws do not directly address AI creators, leaving the law gray. These frameworks typically require human authors for copyright protection, excluding AI-generated⁵ works. This exclusion raises concerns about the protection and commercial exploitation of such

⁵ Zekos, G.I. and Zekos, G.I., 2021. AI and IPRs. Economics and Law of Artificial Intelligence: Finance, Economic Impacts, Risk Management and Governance, pp.461-489.

works, which could stifle innovation and investment in AI-powered creative industries.

AI and Copyright Law

Copyright law protects original literary, artistic, and musical works, provided they exhibit human creativity and originality. AI systems, particularly generative models, can now produce content such as articles, paintings, music, and software code.

The central issue lies in determining authorship. Since most copyright regimes require a human author, works generated autonomously by AI often fall outside traditional protection frameworks. In jurisdictions such as the United States and the European Union, courts and authorities have consistently emphasized the requirement of human involvement.

Conversely, the United Kingdom adopts a more flexible approach by recognizing the “person making the arrangements” for computer-generated works as the author⁶. This highlights a divergence in legal interpretation and underscores the need for harmonization.

AI and Patent Law

Patent law grants exclusive rights to inventors for novel, non-obvious, and useful inventions.

The rise of AI-generated inventions challenges the definition of “inventor.”

A notable example is the DABUS case, where an AI system was named as the inventor in patent applications across multiple jurisdictions. Courts in the United States, the United Kingdom, and the European Union rejected these applications, reaffirming that only natural persons can be recognized as inventors.

This position raises practical concerns. If AI contributes significantly to an invention, denying inventorship may discourage disclosure and innovation. On the other hand, granting legal personhood to AI introduces profound legal and philosophical implications.

AI and Trademark Law

Trademark law is comparatively less affected by AI. While AI tools can assist in creating logos,

⁶ Tegmark, M. (2019). *Creative AI and Copyright: Protecting AI-Generated Works*. Oxford University Press.

brand names, and marketing strategies, ownership typically remains with the human or corporate entity utilizing the AI system.

However, AI-driven branding raises concerns regarding originality and potential conflicts with existing trademarks. Automated systems may inadvertently generate marks that resemble registered trademarks, leading to legal disputes.

Trade Secrets and AI

AI systems, algorithms, and training datasets are often protected as trade secrets. Companies invest substantial resources in developing proprietary AI technologies, making confidentiality crucial.

Nevertheless, AI also poses risks to trade secrets. Data breaches, model inversion attacks, and unauthorized access can compromise sensitive information. Balancing transparency and protection becomes increasingly complex in this context.

Key Legal and Ethical Challenges

Authorship and Ownership

The fundamental challenge lies in attributing ownership to AI-generated outputs. Should ownership vest in the developer, the user, or remain unprotected?

Originality and Creativity

AI systems are trained on existing datasets, raising questions about whether their outputs are truly original or merely derivative. This has implications for copyright infringement and fair use doctrines.⁷

Liability

Determining liability in cases of infringement involving AI remains unclear. Assigning responsibility among developers, users, and organizations is a complex legal issue.

⁷ Duffy, John F. (2010). Why Business Method Patents? *Stanford Law Review*, 63(6): 1247-1288.

Data Usage and Consent

AI training often involves the use of copyrighted materials without explicit permission, leading to concerns about unauthorized exploitation and the need for licensing frameworks.

Comparative Global Perspectives

Different jurisdictions have adopted varied approaches to addressing AI-related IPR issues. The United States and the European Union maintain a strict human-centric approach, while the United Kingdom provides limited recognition for computer-generated works. Countries like India are still in the developmental stage, relying on traditional frameworks while gradually exploring reforms.⁸

This lack of uniformity creates challenges for global innovation and necessitates international cooperation.

The Way Forward

To address the challenges posed by AI, legal systems must evolve. Possible approaches include:

- Recognizing AI-assisted works while maintaining human accountability
- Introducing sui generis rights for AI-generated content
- Establishing clear guidelines for data usage and licensing
- Encouraging international harmonization of AI and IPR laws

CONCLUSION

Artificial Intelligence is redefining the boundaries of creativity and innovation, challenging the foundational principles of Intellectual Property Rights. While existing legal frameworks provide a starting point, they are not fully equipped to address the complexities introduced by AI. A balanced and forward-looking approach is essential to ensure that innovation is encouraged while safeguarding the rights of creators. The future of AI and IPR lies in

⁸ Ebrahim, Tabrez Y. (2020). Artificial Intelligence Inventions & Patent Disclosure. 125 Penn St. L. Rev. 147.

adaptability, collaboration, and the development of legal systems that can keep pace with technological advancements.