

FUTURE TRENDS AND CHALLENGES IN IPRs

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ABSTRACT

In this research paper, we discussed and researched the topic of future trends and challenges in IPRs by knowing the meaning of IPRs and in which fields it is being provided and written about the evolving IP landscape and its impact on industries, ethical considerations in IPR (patent on genetic material and AI-generated tools, emerging challenges and policy implication for IPR protection and management. At last, we conclude the research paper with a conclusion on the future trends and challenges in IPR.

Keywords: *Copyright, geographical indication, industrial design, rights, patents, trademark, Challenges, Intellectual property (IP), Intellectual property rights, AI-generated, Protection.*

INTRODUCTION

Intellectual property (IP) refers to the creations of the human mind like inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. Intellectual property is divided into two categories: Industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and Copyright, which includes literary and artistic works such as novels, poems, plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs. Intellectual property rights protect the interests of creators by giving them property rights over their creations.

Over a period of time, particularly in the contemporary corporate paradigm, ideas and knowledge have become increasingly important parts of trade. Most of the value of high-technology products and new medicines lies in the amount of invention, innovation, research, design, and testing involved. Films, music recordings, books, computer software, and online services are bought and sold because of the information and creativity they contain, not usually because of the plastic, metal, or paper used to make them. Many products that used to be traded as low-technology goods or commodities now contain a higher proportion of invention and design in their value, for example, brand-named clothing or new varieties of plants. Therefore, creators are given the right to prevent

others from using their inventions, designs, or other creations. These rights are known as intellectual property rights.

The following list of the subject matter protected by intellectual property rights:

- Literary, artistic, and scientific works;
- Performances of performing artists, phonograms, and broadcasts;
- Inventions in all fields of human endeavor;
- Scientific discoveries;
- Industrial designs;
- Trademarks, service marks, and commercial names and designations;
- Protection against unfair competition;
- “All other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.”
- IPR as a collective term includes the following independent IP rights, which can be collectively used for protecting different aspects of an inventive work for multiple protection:
 - Patents
 - Copyrights
 - Trademarks
 - Registered (industrial) design
 - Protection of IC layout design
 - Geographical indications and
 - Protection of undisclosed information

OBJECTIVES

1. To know the future of IPR.

2. Examining the influence of emerging technologies on IPR, such as AI, blockchain, and biotechnology, and their implications for innovation and protection.
3. Offering practical solutions and strategies for addressing challenges, whether through legal reforms, international cooperation, or technological innovations.
4. Analysing and documenting the latest developments and trends in IP.
5. To know the law related to IP protection. It basically includes Education and Awareness Licensing and Collaboration,
6. To know the legal and legislative framework.
7. To know if Intellectual property protection incentivizes inventors and creators, leading to increased innovation and technological advancements.
8. To know India's diverse culture and traditional knowledge systems are preserved and protected through IPR, preventing exploitation by others.

RESEARCH METHODOLOGY

Secondary Data has been collected through Journals, Newspapers, Books and The Institute of Company Secretaries in India (ICSI) Study Material

DISCUSSIONS AND FINDINGS

India has taken several measures to promote IPR in India and there is a positive change in the trend but in a highly competitive global economy, the need for protection of IPR and efficient usage of the

resources is important and hence India has to strive for various modifications and changes to the existing the role of IPR is also significant in the protection of the results of research. As India's economy continues to grow and evolve, so too does its intellectual property (IP) landscape. From new laws and regulations to shifting market trends and emerging technologies, the future of IP law in India is constantly evolving. Here, we take a closer look at some of the key trends and predictions shaping the future of IP law in India. Intellectual property encompasses various creations, including patents, copyrights, trademarks, and trade secrets. These rights grant creators' exclusive ownership, allowing them to control the use and dissemination of their work. Understanding the significance of these rights is essential in navigating the ethical complexities that often arise in IP disputes. Patents protect inventions and innovations, enabling inventors to enjoy exclusive rights. Copyrights safeguard original artistic and literary works, while trademarks protect brand identities. These rights are essential for creators and innovators, as they incentivize investment in research, development, and creative endeavors.

1. Evolving IP Landscape and its impact on industries: -

Intellectual property rights (IPR) play a crucial role in promoting innovation, creativity, and economic growth in today's knowledge-based economies. However, IPR laws are not immune to challenges and complexities due to technological advancements, globalization, and changing business models. This article aims to shed light on some of the key problems faced by IPR laws and their implications. Several relevant case studies are cited in support of the claim.

Balancing Protection and Access: One of the fundamental challenges in IPR laws is striking the right balance between providing adequate protection to rights holders. This is done by ensuring access to knowledge for society. This dilemma often arises in the context of patents and pharmaceuticals, where the high costs of patented medicines can limit access to life-saving treatments.

A significant case in this regard is *Novartis AG v Union of India* (2013). In this case, the Supreme Court of India rejected Novartis' patent application for the cancer drug Glivec. This emphasizes the need to balance innovation incentives with public health concerns. The judgment clarified that patents cannot be granted for incremental improvements that do not demonstrate enhanced efficacy. This decision highlights the importance of ensuring IPR laws do not impede access to essential medicines.

Digital Challenges and Copyright: The advent of the internet and digital technologies has posed new challenges to copyright laws. Online piracy and copyright abuse have become rampant, causing significant losses for content creators and rights holders. Legislators struggle to enforce and protect copyright in the digital age.

The landmark case of *MGM Studios, Inc. v. Grokster, Ltd.* (2005) in the United States dealt with file-sharing services' liability for copyright infringement. The Supreme Court ruled that distributing a product with the intent to facilitate copyright infringement could result in liability. This is even if the service provider did not directly participate in the infringing activities. This case demonstrates the need for courts to adopt copyright laws to address emerging technologies and punish those who enable copyright infringement.

Patent trolling and abuse: Another issue plaguing the IPR landscape is patent trolling. This is where entities acquire patents not for legitimate business purposes but to extract financial gains through aggressive litigation and licensing demands. Patent trolls exploit the system, burdening legitimate innovators with frivolous lawsuits and stifling innovation.

A noteworthy case is *Alice Corp. v. CLS Bank International* (2014) in the United States. The Supreme Court held that abstract ideas implemented using generic computer technology are not eligible for patent protection. This decision provided a framework to curb software patent abuse by patent trolls. It promoted clarity and discouraged overly broad or vague patents.

International Enforcement and Harmonization: As global trade expands, IPR law enforcement and harmonization across jurisdictions become increasingly vital. Differences in legal standards, enforcement mechanisms, and cultural attitudes towards IPR present significant challenges for rights holders seeking international protection.

The ongoing dispute between Apple Inc. and Samsung Electronics Co. is a pertinent case study in international IPR enforcement. The two technology giants have been engaged in a prolonged legal battle involving patent infringement claims across multiple jurisdictions. This case exemplifies the complexity and costs involved in protecting intellectual property rights globally.

Emerging Technologies and IPR: Technological advancements such as artificial intelligence (AI), blockchain, and biotechnology raise novel challenges for IPR laws. Issues surrounding the ownership,

patentability, and protection of these emerging technologies require careful consideration and legal frameworks that adapt to their unique characteristics. In the case of *Myriad Genetics, Inc. v. Association for Molecular Pathology* (2013), the U.S. Supreme Court ruled that naturally occurring DNA sequences are not eligible for patent protection.

Despite the investments made in isolating and identifying. Those sequences, this decision has significant implications for biotechnology companies. It underscores the need to strike a delicate balance between encouraging innovation and ensuring access to scientific knowledge.

Intellectual Property in Pharmaceutical Industries

More than any other technological area, drugs, and pharmaceuticals match the description of globalization and need to have a strong IP system most closely. Knowing that the cost of introducing a new drug into the market may cost a company anywhere between \$ 300 million to \$1000 million along with all the associated risks at the developmental stage, no company will like to risk its IP becoming a public property without adequate returns. Creating, obtaining, protecting, and managing IP must become a corporate activity in the same manner as the raising of resources and funds. The knowledge revolution, which we are sure to witness, will demand a special pedestal for IP and treatment in the overall decision-making process.

IP in the food industry

Despite the specific challenges to IP protection existing in the food industry, IP, and more specifically, unusual trademarks and patents concerning food safety rules, are increasingly used to protect the

shape, color, aspect, or distinctive feature of food or packaging. Growing Role of IP as a Competitive Tool Creativity, research, and scientific innovation such as 3-D printing have opened a whole new world in the food industry by diversifying food shapes, textures, packaging, and materials. While these tools have to be used with an eye on health and safety considerations, they offer endless possibilities to explore protection through trademark, trade dress, and patent law.

IP in the Music Industry

Intellectual property law plays a pivotal role in the music industry, safeguarding the rights of artists and facilitating fair compensation for their creativity and effort. It enables artists to grant permissions for the use of their work while protecting their interests through the provision of royalties. With the advent of digital technologies, the landscape of intellectual property protection has undergone significant changes, presenting both opportunities and challenges. While technologies such as blockchain and digital watermarking offer new avenues for tracking music distribution and enforcing rights, the ease of content replication and unauthorized use online pose considerable risks. The evolving intersection of technology and intellectual property law necessitates continuous adaptation and robust strategies to uphold the rights of artists in the digital age.

2. Ethical Considerations in Patents on Genetic Material and AI-Generated Work

In the rapidly evolving landscape of biotechnology and artificial intelligence (AI), the intersection of patents, genetic material, and AI-

generated work raises complex ethical questions. This essay explores the ethical considerations surrounding the patenting of genetic material and AI-generated creations, delving into the implications for innovation, accessibility, and the potential commodification of life.

I. Genetic Material Patents:

A. Innovation vs. Monopoly:

Patents on genetic material have been instrumental in fostering innovation by providing incentives for research and development. However, the balance between incentivizing innovation and preventing monopolies on essential genetic information is delicate. Ethical concerns arise when corporations patent naturally occurring genes, potentially hindering scientific progress and limiting access to vital information.

B. Inequality in Healthcare:

Genetic patents may exacerbate healthcare disparities by limiting access to diagnostic tests and treatments. The high cost of patented genetic tests can result in unequal access to healthcare, disproportionately affecting marginalized communities.

C. Consent and Ownership:

The ethical dilemma of patenting genetic material involves the concept of ownership. Should individuals or entities be allowed to own parts of the human genome? Striking a balance between incentivizing genetic research and respecting individual autonomy and consent is crucial.

II. AI-Generated Work Patents:

A. Authorship and Creativity: AI-generated works challenge

traditional notions of authorship and creativity. Determining the ethical basis for patenting these creations requires addressing questions about the role of human input, the level of originality, and the AI's autonomy in the creative process.

B. Open Access and Collaboration:

AI-generated works can benefit society at large, and ethical considerations involve the tension between proprietary control and open access. Encouraging collaboration and open-source initiatives can foster a more inclusive innovation environment.

C. Accountability and Bias: As AI becomes increasingly involved in creative processes, ethical concerns regarding accountability and bias emerge. Patents on AI-generated works should navigate the responsible development and deployment of AI systems to mitigate biases and unintended consequences.

III. Overlapping Ethical Challenges:

A. Privacy Concerns:

Both genetic material and AI-generated works involve privacy considerations. Genetic information is inherently personal, and AI-generated content may inadvertently disclose sensitive details about individuals. Striking a balance between innovation and privacy protection is crucial.

B. Global Equity:

The global nature of genetic information and AI-generated content demands ethical frameworks that address issues of equity and accessibility on an international scale. Balancing the interests of different nations and communities is essential to prevent exploitation

and ensure equitable benefits.

Navigating the ethical landscape of patents on genetic material and AI-generated work requires a thoughtful and nuanced approach. Striking a balance between incentivizing innovation, protecting individual rights, and ensuring global equity is essential. As technological advancements continue, ongoing ethical dialogue and adaptable regulatory frameworks will be crucial to address emerging challenges and guide the responsible development and use of genetic and AI technologies.

3. Emerging challenges and policy implications for IP protection and management in India.

India faces several emerging challenges in Intellectual Property Rights (IPR) protection, and addressing them requires careful consideration of policy implications. The dynamic landscape of technology, global trade, and innovation necessitates a robust IPR framework. Here are key challenges and corresponding policy implications.

1. **Rapid Technological Advancements:** India witnesses continuous advancements in technology, particularly in fields like artificial intelligence, biotechnology, and digital platforms. This pace often outstrips the existing legal frameworks, leading to uncertainties in protecting intellectual property.
2. **Counterfeiting and Piracy:** Counterfeiting and piracy persist as significant threats to IPR in India, affecting industries from pharmaceuticals to entertainment. Weak enforcement mechanisms contribute to the proliferation of counterfeit goods.

3. **Access to Affordable Medicines:** Balancing the need for affordable medicines with pharmaceutical patents is a persistent challenge. Striking this balance is crucial for public health, especially in a country like India with a large population and diverse healthcare needs.

4. **Data Protection and Privacy Concerns:**

As technology becomes more intertwined with intellectual property, issues of data protection and privacy gain prominence. Balancing the need for innovation with safeguarding personal information is a delicate task.

5. **International Trade Agreements:** India's participation in international trade agreements can impact its IPR policies. Striking a balance between meeting international standards and safeguarding domestic interests poses a challenge.

6. **Technological Advancements and Digital Piracy:** With the rapid growth of technology, digital piracy has become a significant challenge. The ease of replicating and distributing digital content poses threats to the protection of intellectual property, necessitating robust policies to address these concerns.

7. **Globalization and Trade Dynamics:** India's integration into the global economy increases the need for alignment with international IPR standards. Balancing global trade interests while safeguarding domestic innovation requires a nuanced policy approach to harmonize conflicting demands.

8. **Pharmaceutical Sector and Access to Medicines:** The pharmaceutical industry faces a delicate balance between incentivizing innovation through patents and ensuring affordable access to essential medicines. Crafting policies that encourage

innovation while addressing public health concerns remains a key challenge.

9. **Biotechnology and Genetic Resources:** The intersection of biotechnology and genetic resources raises questions about benefit-sharing and protecting indigenous knowledge. Policies must strike a balance between encouraging innovation and safeguarding the rights of local communities.

10. **Data Protection and Privacy:** The increasing reliance on data-driven technologies raises concerns about data protection and privacy. Policies must evolve to safeguard intellectual property related to data while respecting individual privacy rights.

11. **Enforcement Challenges:** Strengthening the enforcement mechanisms for IPR protection is imperative. Inconsistent judicial decisions, delays in legal processes, and limited resources hinder effective enforcement. Policymakers must focus on improving the legal infrastructure and judicial efficiency.

12. **Counterfeiting and Trademark Infringement:** Counterfeiting remains a significant challenge, particularly in sectors like pharmaceuticals and consumer goods. Policies should address the need for stricter enforcement, public awareness campaigns, and international cooperation to combat these illicit activities.

Policy Implications:

1. **Strengthening Legal Frameworks:** Continuously update and strengthen legal frameworks to align with international standards, ensuring robust protection across all intellectual property categories.
2. **Enhanced Enforcement Mechanisms:** Invest in resources and

training for law enforcement agencies to improve the detection and prosecution of intellectual property infringements.

3. **Public Awareness and Education:** Implement public awareness campaigns to educate consumers, businesses, and stakeholders about the importance of intellectual property rights and the consequences of infringement.
4. **Industry-Academia Collaboration:** Foster collaboration between industries and academic institutions to promote research and development, creating an ecosystem that values and protects intellectual property.
5. **Flexibility in Pharmaceutical Patents:** Evaluate and adapt policies to strike a balance between incentivizing pharmaceutical innovation and ensuring affordable access to medicines, potentially through flexible patent terms.
6. **Access to Genetic Resources:** Develop policies that ensure fair and equitable sharing of benefits from the use of genetic resources, respecting the rights of indigenous communities and promoting biodiversity conservation.
7. **International Cooperation:** Strengthen international collaboration to address cross-border challenges, harmonize standards, and share best practices for intellectual property protection.
8. **Proper analysis:** A careful analysis of the implications of trade agreements on IPR is essential. Active engagement in international forums can help India shape global standards while safeguarding its priorities. Regular reviews and updates of IPR laws are crucial to ensure they remain relevant.

Protection and management in India

Since economic liberalization in 1991, India has witnessed tremendous growth in the sphere of international business. At the same time, intellectual capital has gained substantial importance in international trade. In terms of new statutes and judicial pronouncement, IPR laws in India are conspicuous. India has done significant work to protect and manage Intellectual Property Rights and according to the law intellectual property in India is mainly classified as Trade Marks, Patents, Copyrights and Related Rights, and Industrial Designs. Where Patent, Trade Marks, and Industrial Design are under the control of the Ministry of Commerce and Industry; the same copyright and its related issues are regulated by the Ministry of Human Resource and Development.

To protect IPR LAWS in India a proper statutory, administrative, and judicial framework has been made. A notable thing is that India complies with its obligations under the Agreement on Trade-Related Intellectual Property Rights (TRIPS) by enacting the necessary statutes and amending the existing statutes. This post aims to discuss four main IPR laws: Trademarks, Patents, Copyrights, Related Rights, and Industrial Designs. Economic liberalization has stimulated intellectual property rights in the Indian economy. After 1990, IPR laws in India were amended and a new set of rules were introduced to strengthen the regulatory system of Intellectual Property. In the modern scenario, the protection of IPR is mandatory not only for fair trade and business but also for encouraging credibility and innovations.

Intellectual property rights in India are governed under the following Acts:

- Trade Marks Act, 1999
- The Patents Act, 1970 (amended in 2005)
- The Copyright Act, 1957
- The Designs Act, 2000
- The Geographical Indication of Goods (Registration and Protection) Act, 1999
- The Protection of Plant Varieties and Farmers Rights Act, 2001
- The Information Technology Act, 2000

All IPRs are now administered by the Department for Industrial Property and Promotion (DIPP)

The Department of Industrial Policy & Promotion (DIPP) is responsible for the formulation and implementation of promotional and developmental measures for the growth of the industrial sector, keeping in view the national priorities and socio-economic objectives. It is responsible for the overall Industrial Policy. It monitors the industrial growth and production, in general, and selected industrial sectors. The Department studies, assesses, and forecasts the need for technological development in specific industrial sectors in particular. The Department is also responsible for facilitating and increasing the FDI inflow in the country. The Department is responsible for encouraging the acquisition of technological capability in various sectors of the industry through a liberal foreign technology collaboration regime. It plays an active role in investment promotion through the dissemination of information on the investment climate and opportunities in India and

by advising prospective investors about licensing policy and procedures, foreign collaboration, import of capital goods, etc. The Department is also responsible for Intellectual Property Rights relating to Patents, Designs, Trade Marks, and Geographical Indication of Goods and oversees the initiatives relating to their promotion and protection.

CONCLUSION

Thus, it is safe to say that in recent times of a globally highly digital landscape, Intellectual Property Rights are more essential than it has ever been. IPR has given worth to the ideas and has made them commercial potential. Without taking adequate measures to protect one's invention or business, the individual can never reap the benefits of their hard work. The registration and patents of the latest developments and innovations are also adding to the economy of the nation.

In 2023, the government announced many national IPR policies to foster innovation and entrepreneurship, as well as to review and reinforce existing rules. For many years, there has been a lot of backlashes to greater IPR protection from people who fear it will harm India's interests. With the rise of patents and trademarks of companies being shared on the internet widely, it has become easy for people to illegally copy the ideas shared online but several countries recognize the importance of original work and ideas and thus have very strict legal provisions for the same. Emerging technologies and legal frameworks will have a significant impact on the future of IPR in India. With AI and ML, blockchain, being adopted at a fast pace,

it's essential to put in place legal and regulatory frameworks that support the growth of the digital ecosystem in India.

The laws created by the government must be designed so that we can benefit from technology without jeopardizing our rights. As India strives to become a digital-first economy, it is becoming increasingly important to establish IP protection mechanisms that secure creativity and innovation. A comprehensive and robust legal framework for IPR protection coupled with a policy framework to guard against cyber threats will help secure India's intellectual property while promoting innovation and creativity.