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The Legal Dilemma Of Intellectual Property Rights In The Era Of Artificial Intelligence

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Abstract

The ever-growing need of Artificial Intelligence (AI) in today's time is making it a part of everyone's life. AI can be found out in every aspect, be it music, visual arts, texts or any other creative works. It has helped many industries revolutionize in their own manner like healthcare, finance, entertainment, etc. But with these advancements a common problem which is also arising is the applicability of AI in the realm of Intellectual Property Rights (IPR). The complex question of copyright laws comes into picture. There is a strong debate which is still going on among various groups of people whether AI should be given Intellectual Property Rights and should it be considered a creator or inventor for the works it generates or not. The prevalent nature of the AI generated creations along with the current IP laws which only acknowledge a human creator and author, leads to confusion in terms of authorship, ownership and protections. Legal cases like *Naruto v. Slater* and *Thaler v. Commissioner of Patents* emphasize the dominant view that non-human entities are unable to possess IP rights. The supporters of the same contend that there is a need for revised policies for the involvement of AI in promoting innovation and research, in order to avoid the obstruction of technological progress. This document highlights the necessity of a balanced legal structure that encourages innovation while safeguarding the integrity of intellectual property rights. As AI reshapes creative and technological fields, modifying IP regulations to align with its growing influence will be crucial for sustaining a fair and progressive legal system. The significance and effects of these changes on creators, legal frameworks, and society at large are examined, alongside various suggested approaches to align innovation with intellectual property rights.

Keywords: Intellectual property rights; artificial intelligence; copyright; patent; trademark; legal systems; AI generated content.

Introduction

The emergence of Artificial Intelligence, and the benefits that accrue from it, also bring about challenges of authorship and ownership of the resulting work. This calls for re-examination of current frameworks to solve problems such as ownership of AI-generated content, patentability, and copyright infringement, while at the same time using AI for efficient administration and enforcement of intellectual property. The unprecedented speed of development of this technology is driving organizations toward self-regulation models grounded on ethical considerations. The rapid development of artificial intelligence (AI) has brought immense challenges in the application of intellectual property (IP) laws to AI-generated works. As technology advances, businesses are increasingly turning to ethical self-regulation models, while governments around the world are attempting to update IP laws to encourage innovation without eroding legal protections. Some nations, like New Zealand, have

adopted a minimalist regulatory strategy, believing that current laws are sufficient protection and intervention is only necessary when unavoidable. However, intricacies of global IP enforcement and the absence of harmonized AI regulations remain a challenge. As AI technologies cross over into other sectors, businesses need to be proactive in keeping up with changing IP frameworks and adhering to them to safeguard their property and avoid copyright infringement.

Artificial intelligence-enabled tools are progressively being employed by rights holders and legal practitioners for enhancing efficiency in intellectual property administration, simplifying search procedures, and formulating innovative business approaches. In spite of these trends, human agency continues to be essential in assuring fairness and accuracy in legal decision-making contexts. This article analyzes the functions of artificial intelligence in copyright, patents, and trademarks, highlighting the legal uncertainty of authorship, inventorship, and brand management. Through the analysis of case studies and existing legal mechanisms, it gives insights and policy recommendations for supporting legal practitioners and policymakers in tackling the transformative dynamics of artificial intelligence on intellectual property rights.

Objectives and scope of the research

The objective of this research paper is to provide an in-depth overview of how artificial intelligence (AI) is reshaping intellectual property rights (IPRs) and the right legal and policy frameworks to address the challenges and opportunities it presents. As AI takes on an increasingly important role in intellectual property creation, management, and exploitation, it raises essential questions regarding ownership, patentability, copyright infringement, and data protection. This paper discusses these legal and ethical issues while also discussing how AI can maximize intellectual property asset management, enhance intellectual property searches, and develop new business models for intellectual property exploitation. The research attempts to assess the adequacy of existing copyright, patent, and trademark legislation in handling works created by AI, identifying loopholes and discrepancies across jurisdictions such as the United States, the European Union, and India. It also considers global perspectives from organizations such as the World Intellectual Property Organization (WIPO). The research also analyzes the moral and economic implications of granting intellectual property rights to AI, its impact on human creators and industries. Based on case law analysis, legislative trends, and academic opinions, this study describes the complex legal and policy issues resulting from the intersection of artificial intelligence (AI) and intellectual property rights (IPRs). It offers policy recommendations to policymakers, intellectual property experts, and legal scholars regarding how to deal with these new challenges. The ultimate goal is to advance the current debate regarding the effect of AI on law and society to drive legal frameworks forward to maximize the benefits of AI while, at the same time, minimizing its related risks.

Overview of IPR- Copyrights, Patents, Trademarks, and Trade Secrets

Intellectual Property Rights (IPR) refer to the rights granted to works of the mind, including inventions, literary and artistic works, symbols, names, and designs used in trade. They give creators and inventors sole ownership of their work for a limited period, hence promoting innovation and economic development. Copyright protects original literary, artistic, and musical compositions, thus reserving exclusive rights to the creator to reproduce, distribute, and exhibit his work. In general, it lasts as long as the author plus a specified period (e.g., 60 years in India). Patents provide exclusive rights to the inventors of new and useful inventions, excluding others. Other people cannot make, use, or sell the invention without their consent. Patents remain effective for 20 years. Trademarks protect brand names, logos, slogans, and product names that distinguish goods and services from others. Trademark protection can be perpetually extended. Trade secrets are secret business information, such as formulas, manufacturing processes, and marketing techniques, that give a company a competitive edge. Trade secrets are the only intellectual property rights that are safe as long as they remain confidential. Intellectual Property Rights (IPR) are used to encourage creativity and technological innovation by compensating inventors and creators financially for their work. IPR also encourages research and development, investment, and economic growth by allowing companies to acquire and sell their innovations. IPR is governed by international and domestic legal frameworks, such as: The Berne Convention (1886) of copyright protection. The Paris Convention of 1883 for patents and trademarks. The 1995 TRIPS Agreement under the WTO, which set global

IPR standards. National laws, e.g., the Indian Copyright Act, the United States Patent Act, and the European Patent Convention.

AI and the challenge of legal ownership in intellectual property

The increasing application of Artificial Intelligence (AI) to produce innovative products and inventions raised complex legal issues of intellectual property (IP) ownership. Traditional IP codes sought to protect human ingenuity with rights reserved only for natural human beings or persons. However, AI systems can produce music, images, writings, and even innovative inventions without direct human input. This paradox surrounding the law baffles legal experts globally. In the *Thaler v. USPTO (DABUS case)*¹, Dr. Stephen Thaler tried to patent an AI system, DABUS, as the inventor of a patent, believing that AI independently developed novel and useful inventions. Despite refusal by the United States, United Kingdom, European Union, and Australia due to the inventor having to be a human being, South Africa issued a patent with DABUS as the inventor, igniting an international controversy over the legal status of AI under IP law. The same question on copyright has surrounded AI-generated works, as evidenced by the "Zarya of the Dawn" case², with the U.S. Copyright Office refusing copyright registration of AI-generated images, reaffirming the notion of human authorship as an absolute requirement. These legal entanglements raise the broader issue of gaps in existing IP frameworks, prompting the controversy over solutions. While some propose vesting ownership rights in the programmer or user operating the AI system, as the photographer asserting rights to an image taken on a camera, others propose comparing AI as a tool whose use must require human involvement to be eligible for IP protection. A more radical proposal suggests granting AI limited legal personhood, similar to corporations, with the capacity to hold IP rights in its own right—though this is problematic in terms of liability and responsibility. Without a clear legal framework, AI-generated content is stuck in a gray area, risking being denied protection, creating commercial uncertainty, and being exploited. As AI technology advances, legal reform needs to reconcile promoting innovation, safeguarding human authors, and aligning existing IP with the evolving role of AI in inventive and creative processes. The debate suggests that international harmonization and policy action will be needed to counter the problems raised by AI in intellectual property law.

Debate regarding AI and IPR³

One of the most debated aspects of AI and IPR is the copyright protection of AI-generated works. The group which contends that AI should not be given any protection or rights give the following arguments of their own. That the laws governing copyright like the Berne convention explicitly mentions that the protection would be given to the human creators of the work. With this, it could be inferred that AI being a non-human entity, will not be eligible for any kind of protection under IP laws. Ownership issue is the most important issue in this context. The group supports their argument with a very landmark case in copyright laws- *Naruto v. Slater*⁴, No. 16-15469 (9th Cir. 2018). In this case, a monkey took a selfie and the owner of the monkey was claiming for a copyright protection of the same for the monkey. But the court ruled that a non-human creator cannot be granted the protection under the law. This principle suggests that AI-generated works may lack copyright protection.

Most patent laws, including the European Patent Convention (EPC) and the Indian Patents Act (1970), require human inventor. This could be seen from the case of *Thaler v. Commissioner of Patents [2021] FCA 879*. In this case it was questioned whether AI, DABUS should be given patent protection and will it be considered as an inventor or not. The courts in the US, UK and EU rejected this claim and said that only humans are eligible to get patent protection under the laws. Again, it could be argued that AI is made by humans to simplify their work

¹ *Thaler v. Comptroller-General of Patents, Designs and Trade Marks*, [2023] UKSC 49

² Stephen Wolfson, *Zarya of the Dawn: US Copyright Office Affirms Limits on Copyright of AI Outputs*, Creative Commons (Feb. 27, 2023), <https://creativecommons.org/2023/02/27/zarya-of-the-dawn-us-copyright-office-affirms-limits-on-copyright-of-ai-outputs/>. **​::contentReference[oaicite:1][index=1]

³ **AI and Intellectual Property Rights**, IndiaAI, <https://indiaai.gov.in/ai-standards/ai-and-intellectual-property-rights> (last visited Mar. 23, 2025)

⁴ *Naruto v. Slater*, 888 F.3d 418 (9th Cir. 2018)

and not vice-versa. In addition to this, for an AI to give results or generate any work, human intervention is an essential since they are the ones whose giving prompts to AI without which it is next to impossible for it to even suggest any results. Hence, the creativity of the human should be taken into account for granting of protection. Another group who supports the amalgamation of AI and IPR also have their fair number of arguments for the same. According to them if AI is not acknowledged as an inventor, businesses depending on AI for research and development might face difficulties in obtaining patents, which could impede innovation. In terms of trademark generation, AI can create distinctive brand name and logos but the issue again arises when not one but a handful of people come and seek the protection for the same. And since AI works the same for each individual who might give their prompts in the same manner, it again becomes a matter of ownership. Trade secrets powered by AI are again at risk from cyber threats, making strong data protection laws essential.

Patentability of AI-generated inventions⁵

The issue of whether inventions generated by AI can be patented is problematic, as advancements in AI have pushed the limits of our understanding of what an inventor is. In law internationally, it is understood that creativity has rooted human creativity in the notion that only humans and corporations can be deemed the "inventor". This idea conflicts with many aspects of AI, the DABUS (Device for the Autonomous Bootstrapping of Unified Sentience) being a prime example of an AI which creates its own new and useful inventions. The questions arise whether AI can hold a patent of its own, or that of ownership of patent rights. The DABUS case has been put forward by Dr. Stephen Thaler to test this limitation in several jurisdictions. The USPTO and US judicial system, along with judicial systems of the UK and Europe all rejected DABUS as an inventor, stating that the AI did not have legal personhood and therefore the AI did not fulfill the requisite intellectual contribution to be an inventor. Australia initially approved DABUS AI as an inventor but later overturned that decision claiming the law as it stands globally is that only human's can be an inventor. South Africa is the first jurisdiction to accept DABUS as an inventor but this case has not been subjected to judicial review, and faces scrutiny from the legal community globally. Despite these rulings, the growing role of AI in innovation has sparked debate about whether patent laws should adapt. Various jurisdictions are taking different paths. In the United States and European Union, patent laws require a human inventor, and thus, AI inventorship remains legally implausible. India's patent system appears to follow the TRIPS Agreement and seems likely to follow the human-centric model, although it is largely silent on AI-generated inventions. The World Intellectual Property Organization (WIPO) is currently leading the discussion around harmonizing patent policies related to AI across different legal systems, demonstrating there is an immediate need for clarity. There are different proposed solutions as the legal discussions continue. One proposal would allow AI to be a co-inventor alongside its human operator or developer. Others have suggested that some amendments to patent laws would need to occur allowing for rights to AI-generated inventions to be given to the creator, owner, or user of the AI. Some are suggesting a new sui generis (unique) IP system that would regulate AI-generated innovations separately and still provide some rights and protections for AI-generated inventions without upsetting the current legal system.

The absence of legal recognition for inventions generated by AI gives rise to legal and commercial ambiguity, as it risks dissuading investment in AI-supported research and development. Hindering patent rights granted to AI-generated inventions that could otherwise create monopolies would also reduce incentives for innovation because companies will want to preserve the confidentiality of AI-generated discoveries as trade secrets instead of patenting them. Furthermore, with ever-advancing AI systems, human contributions to inventions is likely to continue to diminish, making the current system less and less sufficient. Policymakers from the global community will need to balance allowing AI-generated inventions to receive appropriate legal recognition with protecting the contributions of human inventors in patent law. The various conversations taking place at the WIPO level and the national patent office level recognize that change is needed. Nevertheless, whether AI-generated inventions will be allowed an entirely new independent status as inventors, as a co-inventor status, or

⁵ Dr. Mohd Akhter Ali & M. Kamraju, Impact of Artificial Intelligence on Intellectual Property Rights: Challenges and Opportunities, 1 Osmania U.J. Intell. Prop. Rts. 21 (2023)

remain un-patentable under existing law still leaves room for unanswered questions that may eventually define the future of intellectual property laws in the era of AI.

Copyright protection for AI-generated works⁶

The copyright protection of works created by artificial intelligence is still a topic of debate since existing law traditionally requires human authorship. Courts and intellectual property offices worldwide rejected the premise that AI can be classified as an author, as with the “Zarya of the Dawn” case in which the U.S. Copyright Office denied copyright protection for AI-generated images stating that copyright protection can only be extended to works made by human authors. This outcome is also consistent with the precedents formed in countries around the world. Once again, the ruling demonstrates that if something is fully created by AI and there is no human involvement, then the content is not eligible for copyright protection. Without a claim of ownership, nevertheless, the questions of fair use, derivative work, and foreign infringement remain concerning. AI-generated works often use copyrighted content to train the data, thereby creating a possibility of indirect infringement, even if the user had no intention. Determining fault when an AI creates something is complicated since it is unclear if the user, the developer, or the AI should ultimately be responsible. Scholars of the law have proposed alternatives that create reform including expanding copyright protection to AI-assisted works with substantially more human involvement or separate aggregation of copyright acts designed to protect AI-generated content. As AI technology keeps on getting smarter, lawmakers need to walk a fine line between newness and copyright protection. One side is ensuring that creators who are human get fair money for their work, and the other is making things clear for stuff AI actually produces.

Trademark and trade secret problems in artificial intelligence⁷

Artificial Intelligence (AI) is necessarily revolutionizing the branding industry by creating logos, slogans, and trademarks with minimal human intervention. AI tools are capable of creating unique brand identities based on their research of market competition and consumer behavior; nevertheless, this raises issues of ownership and authorship. Trademarks must be unique and of human origin, so the ownership status of AI-created marks is unclear. Courts and trademark offices around the world have not yet established clear guidelines for the acknowledgment of AI as a trademark creator or the need for human involvement in the creation of ownership rights. Artificial intelligence is a key component of trademark infringement identification. Sophisticated machine learning algorithms can search deep reservoirs of cyberspace content in an attempt to identify unauthorized trademark, logo, or other equivalent brand element use. Although this technology strengthens brand protection, it also introduces the problems of false alarms, fair use principles, and missteps by robotic enforcement. Businesses relying exclusively on AI-driven trademark surveillance risk becoming culpable if the system inaccurately identifies legitimate uses or overlooks subtle infringement. In the domain of trade secrets, AI is an enormous risk factor, especially in reverse engineering. Deep learning algorithms and analytics-based AI have the capability to reverse-engineer proprietary algorithms, manufacturing processes, and software codes, facilitating copying of confidential innovations by competitors. This erodes the protection offered by trade secrets, as they are based on secrecy and not formal registration. Corporations will need to enforce stringent cybersecurity and contractual protections against AI-based trade secret misappropriation. In addition, courts will need to re-interpret legal standards in order to align with AI's developing capability for extracting proprietary information. While AI is reshaping trademark and trade secret law, policymakers will need to balance innovation and legal protection, such that AI-driven innovation does not subvert intellectual property rights. Effective regulatory frameworks and ethical use of AI will be the key to solving such complex legal problems.

⁶ Aakib Khan & Prashant Vaishnav, Intellectual Property Law in the Era of Artificial Intelligence, 6 Int'l J.L. Pol'y & Soc. Rev. 125 (2024)

⁷ James Godefroy, How Does Artificial Intelligence Affect Intellectual Property Protection?, Rouse (Mar. 7, 2024), <https://rouse.com/insights/news/2024/how-does-artificial-intelligence-affect-intellectual-property-protection>

Ethics and policy implications in AI and IPR

With AI now being able to create creative and innovative works, the issue is whether such works created by AI ought to be protected by existing intellectual property rights (IPR) law or if we require new IPR regimes. Classical IPR law was drafted to protect human creativity, and therefore it is not clear whether inventions, artistic works, or trademarks created by AI ought to be afforded the same protection. Certain jurisdictions have human authorship prerequisites for copyright and patentability, and others are not sure whether AI can be a rights-holder or whether rights could be attributed to the developer or user of the AI. Balancing the protection of AI-created works against the protection of human innovation is another challenge. Granting IP rights to AI outputs would instill technological innovation, but overprotection would stifle human creativity and limit fair competition. If AI-created works dominate the market, they could reduce the potential of human creators, which would discourage new ideas and innovation.

Ethical issues also complicate the debate around artificial intelligence (AI) and intellectual property rights (IPR). The widespread use of AI in inventions and content creation raises concerns about job loss, especially in creative and research-based sectors. Also, the control of AI-generated content by major technology companies could lead to market dominance, thus limiting smaller creators' access to intellectual property protection. AI algorithms also often reflect biases in their training data and produce content that can be discriminatory and unethical. There is a need to promote fairness, transparency, and accountability in AI-based intellectual property systems. With the vast extent of AI coverage globally, coordinated international policies are needed to ensure legal certainty and avoid jurisdictional disputes. Such bodies as the World Intellectual Property Organization (WIPO) have a key role to play in influencing AI and IPR conversations, promoting cross-border collaboration, and crafting adaptive frameworks that are focused on these new issues. International cooperation will be key to ensuring an equitable and inclusive AI-IPR environment.

Future of IPR in the AI era⁸

The speedy development of artificial intelligence (AI) has compelled policymakers to redefine intellectual property rights (IPR) regimes to deal with AI-created works, inventions, and brand names. Existing IPR legislation depends to a significant extent on human imagination and proprietorship, yet AI-created material dissolves such conventional presumptions. Legal philosophers and regulatory institutions globally are considering numerous legal changes, such as AI-specific IPR regimes and blended models of authorship. One of the suggested reforms is the creation of AI-specific IPR law that differentiates between AI-generated and human-generated works. A few legal systems, including the U.S. and EU, already insist on human authorship for copyright. But there remains controversy over whether AI can be given legal personhood or whether ownership can be ascribed to AI developers, users, or firms using AI systems. A hybrid authorship system, where AI-assisted works are given limited protection and human control is maintained, has also been suggested. This would potentially strike a balance between promoting innovation and the necessity of safeguarding human creativity. Global institutions are instrumental in determining AI-IPR policy. The World Intellectual Property Organization (WIPO) has been the global leader in debating AI and intellectual property issues, leading the charge on policy harmonization. Because AI

research is global in nature, asymmetric national legislation could create international disputes, forum shopping, and uncertainty in the law. WIPO's influence on international AI-IPR standards can increase the predictability of the legal environment, balancing protection of AI works with preventing monopolization by a handful of giants. Global cooperation on AI and IPR policy can also solve ethical issues, such as AI bias, access to AI-generated content on equal terms, and equitable compensation mechanisms. AI-driven automation is significantly transforming legal decision-making in intellectual property rights (IPR) areas. AI-powered technology can make operations such as patent examination, identification of trademark infringements, and

⁸ Nagesh Karale, Intersection of Artificial Intelligence and Intellectual Property Rights: Challenges and Opportunities, iPleaders (Feb. 28, 2024), <https://blog.iplayers.in/intersection-of-artificial-intelligence-and-intellectual-property-rights-challenges-and-opportunities/>

enforcement of copyright more effective through handling large quantities of legal data more accurately and speedily. For instance, machine learning systems can forecast chances of patent grant, identify prospective prior art, and detect violations of trademark right. Although automation streamlines the legal process, at the same time, it generates concerns associated with transparency, accountability, and justice in decision-making. It is possible that AI-driven decisions replicate biases that are embedded in training data and generate incorrect or discriminatory decisions. In order to evade these consequences, legal regimes should include controls that make AI-driven decision-making transparent, intelligible, and human-reviewable. In the future, the trajectory of IPR in the era of AI will require a delicate balance between fostering innovation and safeguarding moral interests. Policymakers must respond to fundamental questions regarding AI authorship, fair competition, and the rights of human creators in a world of increasing automation. Legal reforms must be adaptive enough to keep up with technological advances while preventing AI-driven developments from eroding existing safeguards for human-created works. By facilitating international cooperation and developing open regulation frameworks, the legal world can make sure that AI makes the intellectual property landscape fair, competitive, and innovation-fostering.

Conclusion and recommendations

The application of artificial intelligence (AI) in intellectual property rights (IPR) has posed sophisticated legal and ethical issues. AI-created works, trademarks, and inventions circumvent the conventional concepts of authorship, ownership, and protection under current IPR laws. AI enhances efficiency in branding, trademark protection, and protection of trade secrets, but also introduces risks of unauthorized copying of content, discriminatory decision-making, and monopolization by large firms. AI-based automation in legal decision-making has also enhanced enforcement procedures but posed issues of transparency and equality. To address these puzzles, lawmakers need to think about a multi-fold approach that weighs innovation against equitable legal protection. Initially, AI-specific intellectual property rights regimes need to be established that specify the ownership and scope of protection for works created by AI. A mix of authorship model, giving limited protection to works created with AI assistance while assuring human control, could be an equitable solution. Additionally, establishment of clear guidelines regarding AI-assisted inventions and trademark creation would assist firms in overcoming legal uncertainty. Second, there has to be cooperation at the global level to reconcile AI-IPR policies. The World Intellectual Property Organization (WIPO) and other international regulatory organizations should take the leadership role in setting harmonized principles that avert forum shopping and fragmentation of legislation across borders. This would, in addition, address ethical problems like AI prejudice, equitable payment, and accessibility of AI-generated content. Third, artificial intelligence in legal decision-making must be regulated tightly in order to prevent bias and issues of accountability. Patent examination, trademark enforcement, and copyright detection of infringement should be conducted under artificial intelligence models that are explainable, transparent, and susceptible to human review. Bias mitigation mechanisms must be incorporated into legal tools based on AI to prevent discriminatory results. Aside from IPR, there is further research needed on AI regulation on other legal and ethical fronts. Future research needs to examine the implications of AI on data privacy, antitrust regulations, workers' rights, and liability regimes. The intersection of AI and creative industries, and its implications on journalism, music, and filmmaking, also needs further attention. Research on responsible AI development and ethical frameworks for AI-created content will also be critical to future sustainability.

In short, the future of intellectual property rights (IPR) and AI calls for a forward-looking and adaptive legal approach. Legislators must meet the challenges of AI by introducing specific legal reforms, promoting international cooperation, and ensuring the ethical application of AI technologies. In this way, they can develop a legal framework that supports technological progress while safeguarding human creativity, competition, and equity in the rapidly evolving digital economy.