ARTIFICIAL INTELLIGENCE AND TRADEMARK LAW: NAVIGATING LIABILITY, CONSUMER CONFUSION AND GLOBAL ENFORCEMENT CHALLENGES

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INTRODUCTION:

The emergence and proliferation of Artificial Intelligence in the recent years have made various transformations across various other sectors, is inviting a new era marked by various unprecedented advancements and challenges. Within the domain of the intellectual property law, particularly in the realm of trademark, the impact of AI is both far-reaching and complex. It serves as a pillars of the Intellectual Property protection now had to confront new challenges and opportunities as AI continues to create new ways to reshape the landscape of creativity, innovation and commerce.

One of the important challenges posed by AI in the context of intellectual property law pertains to the generation of content autonomously by AI algorithms. These algorithms are capable of producing a wide array of creative works, spanning from text and images to music and eve entire pieces of literature of art. However, the attribution of authorship and ownership becomes increasingly intricate in the absence of human creators. Unlike human authors or artists, AI lacks legal personhood, leading to uncertainties surrounding the applicability of trademark protection to AI –generated works. This raises a fundamental questions about the nature of creativity, originality and ownership in the digital age.

Trademarks are essential in protecting businesses' identity and reputation, ensuring that brands remain distinct and free from unauthorized use. The rise of AI- generated content introduced a new dimension to this dynamic, as automated systems can inadvertently create content and assets that mirror or dilute existing trademarks. For example, AI may generate brand names or logos that are strikingly similar to existing trademarks, leading to potential cases of infringement or trademark dilution.

AI- generated content arguably blurs the distinctiveness of Disney's iconic brand, a challenge

that highlights the need for the vigilance in the era of AI-driven creativity. Moreover in India and globally, the existing legal frameworks face significant tests in countering AI-generated counterfeiting and infringement. While the traditional IP laws offer mechanisms for protection, their adaptability to address the nuances of AI- driven violations remain under greater scrutiny. The protection of logos are necessary to safeguard the rights of creators and businesses.

LIABILITY ATTRIBUTION IN AI-GENERATED TRADEMARK INFRINGEMENT:

Liability attribution is important while looking into the infringement aspects. Since this type of infringement focus more on AI –Generated it is important to be liable about those type of infringements. There are different concepts which deal under the same on how this can be attributed.

While looking into the infringement aspect of the trademark the one of the important aspect which protects us is the traditional legal principles of trademark liability are designed to protect consumers from safeguard the goodwill associated with a brand. [1]It is important to delve into the intricacies of the assigning responsibility in case of the liability. These principles encompass various aspects, including the establishment of the rights, the criteria for infringement, and the types of infringement recognized under the law.

The traditional provision in India is the Trademarks Act, 1999 defines trademark infringement under section 29 of the same. It is the unauthorized use of a trademark or service mark on or in reference to goods and/or services in a manner that's likely to cause confusion, deception, or mistake about the source of the products and/or services. It is when the infringer uses a trademark which is identical or confusingly almost like a trademark owned by another party, in reference to products or services which are identical or almost like the products or services which the registration covers.

The trademark infringement can be of two types direct and indirect. In direct infringement as specifies in the section 29 of the Trademarks Act, 1999 involves the unauthorized use of trademark that is identical or confusingly similar to a registered mark, leading to potential consumer confusion. Indirect infringement, on the other hand, occurs when a party facilitates or contributes to another's infringing activities. This includes vicarious liability, where an entity

[1] Trademark-infringement.pdf, https://calr.in/wp-content/uploads/2021/07/trademark-infringement.pdf (last visited Mar 23, 2025).

has the right and ability to control the infringer's actions and benefits financially from the infringement, and contributory infringement, which involves knowingly inducing or materially contributing to another infringing conduct. Understanding these distinctions are essential for enforcing trademark rights and navigating potential liabilities in both direct and indirect infringement scenarios. Therefore, while attributing the liability and it is important to know that the same risk is attributed towards the person responsible for this. Another type of indirect infringement also includes contributory infringement which means when the individual was aware of the infringement and when the person contributed materially to the direct infringement.

Another type of problem associated with this is the integration of artificial intelligence into content creation has introduced complex challenges in attributing liability for trademark infringements[2]. The question of liability becomes intricate when AI –generated content infringes on trademarks. The potential possible parties include:

AI Developers- The AI Developers may face liability if their AI systems produce infringing content, especially if they were aware of the potential for such outcomes and failed to implement preventive measures. For instance, AI vendors have been accused of trademark infringement when their models reproduce trademarks present in their training data.

Users- Individuals or entities utilizing AI tools to generate content could be held accountable if they knowingly or negligently produce infringing material. The extent of user liability often depends on their level of control over the AI's output and their awareness of potential infringements.

Platforms- Platforms hosting AI-generated content might be implicated, particularly if they have knowledge of infringing activities and fail to act. Legal theories such as contributory or vicarious liability could apply in these scenarios.

The other important debate centers on whether AI should be regarded merely as a tool used by humans or as an autonomous entity with potential legal personhood. When you take AI as a tool, it is viewed as a tool with liability resting on the human actors who design, deploy, or

[2] Katrina Geddes, Ai liability for intellectual property harms Default (2024), https://www.lawfaremedia.org/article/ai-liability-for-intellectual-property-harms?utm_source=chatgpt.com (last visited Mar 23, 2025).

control it[3]. This perspective aligns with existing legal frameworks that do not recognize AI as having rights or responsibilities. But when you look it as an autonomous entity, some scholars proposes granting AI systems a form of legal personhood, akin to corporate entities, allowing them to bear rights and obligations. This approach could, in theory enable AI systems to be directly liable for infringements. However, this notion raises ethical and practical challenges, as it diverges from conventional legal principles that attribute liability to natural or corporate persons.

In the case of Lush v Amazon case underscores the emerging challeneges of trademark infringement in the era of artificial intelligence. In this instance, Amazon utilized keyword bidding to acquire the trademark Lush on Google's search engine. When users searched for Lush, Google redirected them to Amazon's website. Moreover, Amazon's AI-powered product recommendation system suggested alternative products, even when user specifically search for Lush products[4].

The court ruled that Amazon was liable for the infringement. The ruling against the Amazon highlight the potential for AI-driven platforms to inadvertently or intentionally infringe on trademarks. As AI becomes increasingly sophisticated, the risk of sich infringements is likely to escalate. This serves as a caution for businesses, emphasizing the necessity for robust intellectual property protection strategies in the digital age.

In the Walt Disney Case, the Walt Disney Company's recent concerns about AI –generated content potentially infringing on its trademark highlight the growing risks associated with trademark dilution in the age of AI.

In this case, users were using Microsoft's Bing AI imaging tool to create image of pets in a "pixar" style. While the intent was harmless, the AI inadvertently generated the Disney-Pixar logo within some images, potentially leading to trademark infringement.

[3] Jay Lloyd, Who is responsible for AI copyright infringement? Issues in Science and Technology (2024), https://issues.org/ai-copyright-infringement-goodyear/?utm_source=chatgpt.com (last visited Mar 23, 2025).
[4] Paramita Nandy Gupta Trademark Attorney LinkedIn, Paramita Nandy Gupta & Trademark Attorney, Protecting trademarks in the era of Artificial Intelligence De Penning and De Penning (2025), https://depenning.com/blog/protection-of-trademarks-in-the-age-of-artificial-intelligence/ (last visited Mar 23, 2025).

TRADEMARK USE IN AI TRAINING DATA: LEGAL AND ETHICAL IMPLICATIONS:

The incorporation of trademarked content into AI training datasets poses serious legal and moral concerns. With AI systems learning from large datasets, there's a danger that they might imitate trademarked content, liable to offend intellectual property rights. Legal frameworks that cover data scraping and copyrighting of trademarked content in training datasets are ambiguous, with debates raging concerning fair use and infringement. This imprecision highlights the need for clear guidelines on the use of registered trademarks in training AI, between facilitating innovation and maintaining intellectual property rights.

AI models, especially those that use generative methods, learn from large datasets that tend to contain trademarked material. This exposure has the potential to lead to unintended copying of these elements in AI-generated work, and this can be a source of concern regarding trademark infringement[5]. For example, if an AI that has been trained on trademarked logos generates competing designs, such could confuse consumers and erode brand identity. Unauthorized usage of trademarks created using AI could damage the reputation of the original trademark and the business associated with it.

The legality of using trademarked content in AI training datasets is a complicated matter, mainly because of the differences in interpretation of fair use across jurisdictions. While some believe that the use of copyrighted material for training purposes qualifies as fair use, others believe it amounts to infringement. Data scraping, which is necessary for assembling large data sets, is a further complication in that it could include the harvesting of trademarked content without clear permission. The OECD has also pointed out the necessity for policymakers to approach these matters with sensitivity, taking into account both the function of data scraping in training AI and stakeholders' views.

Considering the prevailing legal uncertainties, there's an urgent necessity for precise guidance on the application of registered trademarks in AI training datasets. These guidelines would be necessary to determine the limits of acceptable use to ensure that intellectual property rights

[5] 102K38M-trade mark issues arising from use of Generative AI, The International Intellectual Property Experts, https://www.marks-clerk.com/insights/latest-insights/102k38m-trade-mark-issues-arising-from-use-of-generative-ai/?utm (last visited Mar 23, 2025).

are not violated but at the same time, the development of AI is encouraged[6]. The World Intellectual Property Organization (WIPO) recognizes the wide-ranging legal uncertainty about AI tools and their training, use, and outputs related to IP infringement, and therefore, it becomes essential to lay down clear-cut policies to contain risks.

CONSUMER CONFUSION AND BRAND IMITATION IN AI-GENERATED CONTENT:

The integration of artificial intelligence into content creation has introduced significant challenges concerning consumer confusion and brand imitation. AI systems, particularly those utilizing generative models, can autonomously produce content that closely resembles existing brand elements, such as logos, slogans, or product designs. This resemblance can mislead consumers into believing they are engaging with or purchasing from the authentic brand, leading to potential deception and version of brand trust. For instance, there have been instances where AI –generated advertisements were perceived as confusing by consumers, highlighting the potential for AI to inadvertently mimic established brand aesthetics[7].

The likelihood of confusion doctrine is a cornerstone in trademark law, used to assess whether the use of a mark by another party is likely to cause confusion among consumers regarding the source or affiliation of goods or services. When applied AI –generated content, this doctrine faces new complexities. Determining liability becomes challenging, especially when infringing content is produced without direct human intervention. Legal experts are actively debating how traditional trademark principles apply in scenarios where AI autonomously generates content that may infringe upon existing trademarks.

There are several instances where the AI Unintentionally Generating content resembling well-known brands those include:

- AI-generated Advertisements: Research indicates that consumers often find AI –generated ads to be more “annoying”, “boring”, and “confusing” compared to those created through traditional methods. This suggests that AI can inadvertently produce

[6] Intellectual property issues in artificial intelligence trained ..., https://www.oecd.org/content/dam/oecd/en/publications/reports/2025/02/intellectual-property-issues-in-artificial-intelligence-trained-on-scraped-data_a07f010b/d5241a23-en.pdf (last visited Mar 23, 2025).
[7] Peter Adams, Consumers call ai-generated video ads annoying, confusing, per NIQ Marketing Dive (2024), https://www.marketingdive.com/news/consumer-perceptions-generative-ai-in-marketing-openai-sora/735761/ (last visited Mar 23, 2025).

content that not only fails to engae but also potentially misleads consumers brand authenticity.

- Deepfakes in Advertising: The use of AI to create deepfake videos, where individuals appear to say or do things they never did, has raised concerns. For example, AI-generated videos have been used in advertising campaigns, leading to debates about the ethical implications and potential for consumer deception[8].

These cases underscore the necessity for brands to exercise vigilance in monitoring AI-generated content and to develop strategies to mitigate risks associated with consumer confusion and brand imitation.

ENFORCEMENT CHALLENGES IN AI-GENERATED TRADEMARK INFRINGEMENT:

Enforcing trademark rights in the context of AI–generated content presents multifaceted challenges that require a nuanced understanding of both technological and legal landscapes. Those include:

1. Identifying the source of infringing AI-generated content

AI systems, particularly those employing generative models, can autonomously produce content that may inadvertently infringe upon existing trademarks. Pinpointing the origin of such infringing material is challenging due to the complexity and opacity of AI algorithms. This difficulty is compounded when AI-generated content is disseminated across multiple platforms, making it hard to trace back to a specific source. For example, AI applications often mine data without distinguishing between protected and non-protected material, increasing the risk of trademark infringement.

2. AI's global presence v Jurisdictional Trademark Enforcement Limitations

The borderless nature of AI- generated content clashes with the territorial limitations of trademark laws, which are typically confined to specific jurisdictions. This disparity complicates enforcement efforts, as infringing content can easily cross borders, making it

[8] Mmrstrategygro, Deep fakes and false advertising consumer surveys MMR Strategy Group (2024), https://mmrstrategy.com/deep-fakes-and-false-advertising-consumer-surveys/ (last visited Mar 23, 2025).

difficult to apply national trademark laws effectively. Moreover, inconsistencies in trademark regulations across countries further hinder cohesive enforcement strategies. The global reach of AI exacerbates these challenges, as content generated in one jurisdiction can quickly spread worldwide, outpacing traditional legal responses.

3. The role of automated trademark monitoring and AI-Driven Enforcement

To combat these challenges, businesses are increasingly turning to AI-driven tools for trademark monitoring and enforcement. These technologies can analyze vast amounts of data in real time, identifying potential infringements more efficiently that usual methods. For instance, AI –powered platforms assist legal teams in tracking trademark activity and identifying potential risks promptly. By leveraging advanced algorithms and real-time data analysis, AI-driven monitoring tools help businesses maintain the integrity of their trademarks and reassure consumers that they are purchasing authentic products. However, while AI offers enhanced monitoring capabilities, it also necessitates responsible deployment to ensure ethical practices and compliance with legal standards.

There were recent actions which highlighted the challenges in AI and Trademark Enforcement which includes:

- News Publishers v Cohere: In February 2025, over a dozen major U.S. news organizations sued Cohere, an AI company, alleging unauthorized use of their publications and harm to their trademarks. This lawsuit, filed in the Southern District of New York, marks a significant legal action organized by the News Media Alliance against an AI firm.[9]

- Perplexity Solved Solutions Inc. v Perplexity AI: In January 2025, Perplexity Solved Solution Inc. (PSS), a Texas based Software Company, filed a lawsuit against Perplexity AI in a California federal court for alleged trademark infringement. PSS claimed that the use of the name "Perplexity" by Perplexity AI caused consumer confusion and diluted its brand reputation[10].

[9] News publishers Sue Cohere for copyright and trademark infringement, https://www.axios.com/2025/02/13/publishers-sue-cohere-ai-copyright (last visited Mar 23, 2025).
[10] Perplexity AI sued by software company for trademark infringement | Reuters, https://www.reuters.com/legal/litigation/perplexity-ai-sued-by-software-company-trademark-infringement-2025-01-31/ (last visited Mar 23, 2025).

- Nitendo's Enforcement Actions: In September 2024, Nintendo utilized an AI-powered copyright tool to issue takedown notices for AI-generated images of its character, Mario. This proactive approach demonstrates how companies are leveraging AI for enforcement, although it also raises concerns about overreach and the potential stifling of fan-created content[11].

These establishes the evolving landscape of trademark enforcement in the age of AI, highlighting both the challenges and the innovative approaches being adopted to protect intellectual property rights.

INTERNATIONAL TRADEMARK LAW DISPARITIES AND AI'S CROSS-BORDER CHALLENGES:

Navigating the complexities of international trademark law in the context of AI-generated content involves understanding the disparities in legal frameworks across jurisdictions, the challenges of global enforcement, and the pressing need for harmonized international regulations.

Trademark law are inherently territorial, with each country or region establishing its own criteria for registration, protection and enforcement. These differences can be significant, affecting how trademarks are recognized and defended globally.

- Registration Procedures: The process for registering a trademark varies widely. Some countries operate on a 'first to file" basis, granting rights to the first applicant, while others recognize 'first to use', where rights are established through actual commercial use. In addition, the classification of goods and services can differ, leading to variations in the scope of protection. For instance, the Nice Classification system is adopted by many countries, but interpretations can vary[12].

- Scope of Protection: What will be considered infringement or dilution may vary. Some places provide wider protection for famous marks, even in dissimilar industries,

[11] Wes Davis, An AI-powered copyright tool is taking down AI-generated Mario Pictures The Verge (2024), https://www.theverge.com/2024/9/24/24252410/nintendo-dmca-notices-mario-fan-art-ai-image-detection (last visited Mar 23, 2025).

[12]Salim & Brandstock Services AG, The differences when registering a trademark in different countries Brandstock (2021), https://www.brandstock.com/the-differences-when-registering-a-trademark-in-different-countries/? (last visited Mar 23, 2025).

whereas others may call for more of a commonality between the goods or services involved.

- Enforcement Mechanisms: The trademark infringement remedies in the form of injunctions, damages, or criminal sanctions are not identical across all jurisdictions. Such variations may impact the approach adopted by owners of trademarks when asserting their rights abroad[13].

The emergence of AI content creates additional complexities for trademark enforcement worldwide.

- Anonymity and Attribution: Computer programs can independently generate content that can violate trademarks, and it is difficult to figure out who is responsible. Liability—whether of the AI developer, the user, or the hosting platform—is a controversial topic.

- Jurisdictional Challenges: As trademark rights are territorial, it is difficult to enforce them against AI-generated work that crosses borders. An infringement that happens online can at the same time involve multiple jurisdictions, each with its own standards of law and machinery of enforcement. This fragmentation can cause uneven results and make enforcement even more difficult.

- Technological Hurdles: The quick diffusion of AI-published content all over digital systems makes it tough to enforce punctually. Existing legal procedures tend to be behind schedule to suit the fast advancement of infringing material, hindering the forcefulness of measures of enforcement.

To overcome such difficulties, there is a consensus evolving that there is a need for harmonized international legal systems which particularly take into consideration the impact of AI on trademark law.

International Agreements and Treaties: Current treaties, i.e., the Paris Convention and the Madrid Protocol, form a basis for global trademark protection. They might not cover the

[13] Kyra, International Trademark Association adopts updated Model trademark law guidelines International Trademark Association (2024), https://www.inta.org/news-and-press/press-releases/international-trademark-association-adopts-updated-model-trademark-law-guidelines (last visited Mar 23, 2025).

specific issues created by AI content well enough. Reviewing them to include provisions concerning AI would make them more effective.

- Unified Classification Systems: Having standardized classification systems for goods and services can minimize inconsistencies in trademark protection between jurisdictions. Standardization would make enforcement results more predictable and easier for trademark owners to register.

- Collaborative Enforcement Mechanisms: Creating cooperative structures that facilitate cross-border enforcement of trademark rights can overcome jurisdictional constraints. Such mechanisms may involve shared registries of registered trademarks, mutual investigation procedures, and concerted takedown procedures for infringing AI-generated content[14].

- Ethical Principles in AI Creation: Adopting global standards for AI creation that place importance on respect for intellectual property rights can actively limit cases of infringement. Encouraging AI developers to integrate trademark compliance procedures into their algorithms can be a preventive measure.

POLICY RECOMMENDATIONS: BALANCING AI INNOVATION AND TRADEMARK PROTECTION:

Equilibrating the fast-paced growth of artificial intelligence (AI) with strong trademark protection requires careful policy formulation. Some of the most important areas of attention are:

1. Formulating Extensive AI-Specific Trademark Legislation

The incorporation of AI across different industries has posed new challenges to the traditional trademark paradigms. To tackle these, policymakers should take into consideration:

- Defining AI-Created Works: Create definitive definitions and guidelines for AI-generated works to identify how trademark legislation applies. This entails resolving

[14] Trademarks, trademarks, https://www.wipo.int/en/web/trademarks?utm_source=chatgpt.com (last visited Mar 23, 2025).

ownership and liability questions relating to AI outputs.

- Updating Registration Processes: Transforming trademark registration processes to recognize the capabilities of AI in generating new marks so that AI-generated trademarks are held to distinctiveness and non-confusion standards.

- Creating Liability Frameworks: Identify the roles of AI developers, users, and platforms in trademark infringement cases to maintain accountability across the AI lifecycle[15].

2. Enhancing Transparency in AI Decision-Making to Avoid Trademark Infringements:

Transparency in the operations of AI is important in ensuring trust and adherence to trademark laws. Solutions to increase transparency are:

- Deploying Explainable AI (XAI): Create AI systems with the ability to give transparent explanations for their actions, enabling stakeholders to comprehend and audit processes that may affect trademark rights.

- Regular Audits: Systematically audit AI systems to guarantee compliance with trademark law and ethical codes, detecting and averting potential threats.

- Encouraging Data Transparency: Make sure AI systems are trained on datasets that are respectful of intellectual property rights, thus limiting the possibility of creating infringing content.

3. International Cooperation Strategies for AI-Related Trademark Enforcement

Considering the international aspect of AI, international cooperation is necessary for the effective enforcement of trademarks. Proposed strategies are:

- Harmonizing Legal Frameworks: Attempt to harmonize trademark laws in jurisdictions to handle the cross-border issues presented by AI, leading to more uniform enforcement.

[15] Gene Quinn Gene Quinn is a patent attorney and a leading commentator on patent law and innovation policy. Mr. Quinn has twice been named one of the top 50 most influential people [...see more], Standards, AI and the Data Transparency Imperative IPWatchdog.com | Patents & Intellectual Property Law (2025), https://ipwatchdog.com/2025/02/18/standards-ai-data-transparency/id%3D186175/ (last visited Mar 23, 2025).

- Creation of International Agencies: Develop specialized international agencies or working groups to manage AI-related trademark matters, ensuring collaboration and information exchange between countries.

- Building Cross-Border Enforcement Mechanisms: Install treaties or agreements to facilitate cooperative actions against trademark violations using AI, making it easier to address multi-country violations[16].

Addressing these areas will allow policymakers to devise a balanced framework for achieving AI innovation while protecting trademark rights.

CONCLUSION:

Balancing innovation in artificial intelligence (AI) and trademark protection is a sophisticated process that necessitates a multidimensional strategy. Crafting exhaustive AI-specific trademark laws is crucial to respond to the peculiar challenges posed by AI-created content. This involves setting concrete definitions and frameworks for AI-created works, revamping registration processes to include AI-generated trademarks, and determining liability frameworks for developers, users, and platforms that engage in AI-related activities.

Enhancing transparency in AI decision-making is also crucial to prevent trademark violations. Implementing explainable AI systems, conducting regular audits, and promoting data transparency can help ensure that AI operations comply with trademark laws and ethical standards.

In addition, international cooperation is critical for successful AI-related trademark enforcement. Converging regulatory structures among jurisdictions, creating global organizations to manage AI-related trademark concerns, and creating cross-border enforcement policies can enable more uniform and effective trademark right protection within the global AI ecosystem. Through these areas, policymakers can develop an environment that promotes AI innovation while protecting trademark rights so that technological development does not sacrifice intellectual property protection.

[16] Bao Tran, The role of AI in monitoring trademark use and infringement PatentPC (2025), https://patentpc.com/blog/the-role-of-ai-in-monitoring-trademark-use-and-infringement (last visited Mar 23, 2025).