



INTELLECTUAL PROPERTY RIGHTS IN DIGITAL AGE: A LEGAL ANALYSIS OF COPYRIGHT AND TRADEMARK

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INTRODUCTION

A creation of the mind includes innovations, literary and creative works, designs, symbols, and names used in trade. These are all referred to as intellectual property in the context of law. The development of the internet and other new technologies in the digital age have fundamentally altered how intellectual property is produced, shared, and used. This has created new difficulties for consumers, governments, and owners of intellectual property rights.

Copyright infringement is one of the main issues with intellectual property in the digital age. The widespread availability of digital content has greatly facilitated the theft and unauthorized distribution of copyrighted works. As a result, producers and sellers of intellectual property have suffered large losses, and it is now challenging to enforce Intellectual Property Law.

Another challenge is the impact of open-source software on intellectual property. Open-source software is software that is made available to the public with its source code, allowing users to modify and distribute it freely. This can make it difficult for companies to protect their intellectual property, as their code can be freely copied and distributed.

There are a number of legal and technological options available to address these issues. Governments can, for instance, enhance enforcement of intellectual property rules. In addition to investigating other business models that depend less on conventional intellectual property rights, companies might employ digital rights management technology to safeguard their intellectual property.

All things considered, intellectual property presents difficult problems in the digital age that call for serious thought and creative answers. To solve these issues and make sure that intellectual property is safeguarded in a way that benefits both creators and consumers, all parties involved must cooperate.

CHALLENGES OF INTELLECTUAL PROPERTY ENFORCEMENT IN THE DIGITAL AGE

The ease of copying and distributing digital content makes intellectual property enforcement extremely difficult in the digital era. It is now very easy to share and distribute digital content worldwide thanks to the internet, which makes it challenging for content owners and creators to keep an eye on and manage the usage of their intellectual property.

The problem of piracy is one of the biggest obstacles to the enforcement of intellectual property in the digital era. The unapproved use, duplication, or distribution of works protected by copyright is referred to as piracy. Particularly in the software, music, and film sectors, widespread piracy has been caused by the ease with which digital content may be shared and copied.

One significant obstacle is the question of jurisdiction. It can be challenging to enforce intellectual property rights across multiple jurisdictions due to the global nature of the internet. It can be difficult for content creators and owners to take legal action against infringers in different locations due to regional variations in intellectual property laws and regulations. Governments and organizations have put in place a number of measures to address these issues, including international treaties to encourage intellectual property protection and laws against piracy. In addition, owners and creators of content have options for safeguarding their intellectual property, including pursuing legal action against violators and employing Encryption systems.

THE ROLE OF TECHNOLOGY IN INTELLECTUAL PROPERTY PROTECTION

Technology has played a significant role in intellectual property protection, both in terms of creating new forms of intellectual property and in helping to enforce existing rights. For instance, content owners and artists can regulate how and where their digital content is used thanks to technology known as digital rights management. Additionally, these technologies can aid in the suppression of intellectual property piracy and unlawful usage. New possibilities for safeguarding intellectual property have also been generated by developments in artificial intelligence and machine learning. These technologies can be used, for instance, to analyze huge quantities of data in order to find patterns that may be used to locate the origin of counterfeit items or to identify possible cases of infringement.

At the same time, technology has also created new challenges for intellectual property protection, such as the ease of reproduction and distribution of digital content. However, by continuing to develop new technologies and strategies for intellectual property protection, we can help to ensure that creativity and innovation continue to thrive in the digital age.

ADDRESSING INTELLECTUAL PROPERTY CHALLENGES: LEGAL AND TECHNOLOGICAL SOLUTIONS

Using both legal and technological solutions, a holistic approach is needed to address intellectual property concerns. Enacting and maintaining regulations that safeguard intellectual property rights, such as copyrights and trademarks, is one way to find legal answers. Additionally, international agreements and conventions can support regional uniformity in intellectual property protection.

Technological solutions, such as digital rights management technologies, can help to prevent piracy and unauthorized use of digital content. Advancements in artificial intelligence and machine learning can also assist in detecting instances of infringement and identifying the origin of counterfeit goods.

Moreover, in order to successfully handle intellectual property issues, cooperation between legal and technological professionals is necessary. While technological professionals can create and implement solutions to protect intellectual property, legal experts can advise legislation and regulations.

All things considered, resolving intellectual property issues calls for a cooperative, well-balanced strategy that incorporates both legal and technological fixes. Together, we can support the advancement of creativity and innovation in the digital era while defending intellectual property rights.

NAVIGATING INTELLECTUAL PROPERTY IN THE DIGITAL AGE

Navigating intellectual property issues in the digital age requires a solid understanding of the legal and technological context. Content creators and owners must be vigilant in protecting their intellectual property rights by registering their trademarks, copyrights, and actively monitoring the internet for infringement. Additionally, collaboration with legal and technological experts is crucial to effectively address these challenges.

Technological developments have brought up opportunities as well as challenges for the protection of intellectual property. Artificial intelligence and digital rights management tools can be used to identify and stop infringement and prevent piracy, however controlling the use of intellectual property has become more challenging due to the availability of digital content distribution and duplication.

In the end, managing intellectual property in the digital era requires a cooperative, balanced strategy that combines technological and legal answers. We can guarantee that creativity and invention thrive in the digital era by combining in protecting intellectual property rights.

THE IMPACT OF OPEN-SOURCE SOFTWARE ON INTELLECTUAL PROPERTY

Software that is made freely accessible, editable, and distributable by the public and is made available with its source code is known as open-source software. The field of intellectual property has been severely affected by this, particularly with respect to the distribution and development of software.

One of the main impacts of open-source software on intellectual property is that it challenges the traditional model of proprietary software development. In the past, software companies would develop their software in-house and keep the source code secret, selling licenses to customers for a fee. However, open-source software allows anyone to view and modify the source code, which can lead to more collaboration and innovation.

Another impact of open-source software on intellectual property is that it can make it more difficult for companies to protect their intellectual property. With the source code freely available, it can be more difficult to prevent others from copying and distributing it. This can be particularly challenging for companies that rely on their software as a core part of their business model.

However, open-source software also presents opportunities for intellectual property protection. For example, companies can use open-source licenses to protect their intellectual property while still allowing others to view and modify the source code. The protection of the intellectual property rights of the person who created the work can be ensured by some open-source licenses, which demand that any modified versions be released under the same license.

COPYRIGHT CHALLENGES IN THE DIGITAL ERA

Copyright is a type of intellectual property that protects original works of authorship, such as books, music, movies, and software. In the digital era, the proliferation of the internet and new technologies has created new challenges for copyright holders, particularly regarding unauthorized copying and distribution of copyrighted works.

One of the biggest copyright challenges in the digital era is piracy. With the rise of peer-to-peer file sharing and online streaming platforms, it has become easier than ever for people to access and share copyrighted content without permission. This has resulted in significant financial losses for copyright holders, particularly in the music and film industries.

Another challenge is the issue of fair use. Fair use is a legal doctrine that allows for limited use of copyrighted material without permission, such as for criticism, commentary, news reporting, teaching, scholarship, or research. However, the digital era has made it more difficult to determine what constitutes fair use, particularly about online content.

To address these challenges, governments and organizations have implemented a variety of measures, such as stricter copyright laws, digital rights management technologies, and alternative business models. However, these

efforts have often been met with criticism and controversy, particularly about issues of censorship and the impact on freedom of expression.

TRADEMARK CHALLENGES IN THE ONLINE WORLD

Trademarks are intellectual property right that protects brands, logos, and other identifying marks used to distinguish one company's products or services from those of another. In the online world, there are several challenges to trademark protection.

One of the main challenges is the issue of domain name infringement. With the proliferation of websites and domain names, it can be difficult for companies to protect their trademarks from infringement. Cyber squatters, who register domain names that are similar to established trademarks to profit from the resulting confusion, can also pose a significant challenge.

Another challenge is the issue of brand impersonation. With the rise of social media and online marketplaces, it has become easier for individuals and companies to create fake accounts or websites that impersonate established brands. This can lead to consumer confusion and damage to the reputation of the original brand.

Companies can register their trademarks with domain name registrars and keep an eye for potential trademark infringement on the internet as ways to combat these issues and safeguard their brands. They can also collaborate with legal professionals to file a lawsuit against those who violate their rights. In general, trademark difficulties in the digital world require companies to protect their intellectual property rights with vigilance and creativity. Companies may help make sure that their names are not compromised or misused online by taking the necessary steps to protect their trademarks.

1. **Online Infringement:** The growth of digital platforms and e-commerce has made it simpler for trademark infringement and the sale of fake goods. Since online infringement is not specifically included by the Act, it is difficult to successfully fight this problem.
2. **Domain Name Disputes:** The Act does not specify how domain name disputes—which are frequent in the digital age should be resolved. This ambiguity may give rise to prolonged and expensive legal disputes.
3. **Social media:** Trademark usage on social media sites is not specifically covered by the Act. Due to this, it may be challenging for trademark owners to prevent unlawful usage of their brands on social media.
4. **Parallel Imports:** When authentic goods are imported and sold without the trademark owner's permission, a situation known as parallel imports occurs. The Act does not specify how to handle these situations. Customers may become confused as a result, and the rights of the trademark owner may be compromised.

5. **Counterfeiting:** The Act does not address counterfeiting, a serious problem in the digital age, with any real effectiveness. The ease with which counterfeit items can be offered online makes it difficult for trademark owners to safeguard their trademarks.
6. **Geographical Indications:** In the digital age, geographical indications (GIs) are not sufficiently protected by the Act. Online product marketing frequently uses GIs, however the Act does not clearly outline how to protect GIs in this environment.
7. **Data Privacy:** Trademark-related data privacy issues are not covered by the Act. There is an increasing need to safeguard customer data and make sure it is not exploited in relation with trademarks as e-commerce and digital marketing expand in popularity.
8. **International Treaties:** The Act does not fully comply with international treaties such as the Madrid Protocol, which simplifies the process of international trademark registration. This can make it difficult for Indian businesses to protect their trademarks abroad.

NAVIGATING THE LEGAL LANDSCAPE IN THE ERA OF AI-GENERATED CONTENT IN INDIA

The Indian Copyright Office, unlike the US, recognizes human-made works. However, the Copyright Act, 1957 classifies anyone who generates a work as an author. If both humans and AI are identified as co-authors, the office removes their protection, indicating a lack of defence for AI-created works. The 161st Parliamentary Standing Committee Report suggests extending IPR protection to AI-created works.¹

Section 12 of India's Digital Personal Data Protection Act, 2023, mandates users to erase their personal information upon request, which could be used to remove content that violates copyright laws. AI cannot unlearn itself once trained on a dataset, making it difficult to delete input data. For instance, in ChatGPT, users can only clear their conversation history to disable data gathering, implying existing data is still part of the training process.²

When it comes to preventing the abuse of artificial intelligence systems for copyright infringement, the Indian courts have taken the lead. The use of artificial intelligence to generate false or altered material, particularly for profit, was prohibited by an order given by the court in the case of *Anil Kapoor v. Simply Life India*.³ The individual's right to personality was the intended target. The US District Court in *Mareta v. Google Inc.*⁴ ruled

¹ Aprajita Lath, "AI Art and Indian Copyright Registration" (10th October 2022) <<https://spicyip.com/2022/10/ai-art-and-indian-copyright-registration.html>> accessed February 3, 2024

² Pastis S, "A.I.'s Un-Learning Problem: Researchers Say It's Virtually Impossible to Make an A.I. Model 'Forget' the Things It Learns from Private User Data" (Fortune Europe, August 30, 2024) <<https://fortune.com/2024/08/30/researchers-impossible-remove-private-user-data-delete-trained-ai-models/>> accessed February 3, 2024

³ Delhi High Court, CS (COMM) 62/2024.

⁴ No. 15-CV-04062-LHK, 2016 U.S. Dist. LEXIS 107918, at *61-*63 (N.D. Cal. Aug. 12, 2016).

that new technologies must be liberally defined to include remedial measures such as copyright infringement prevention and privacy protection. The Indian Courts have also acknowledged this fundamental concept of quick change. Nevertheless, there is a need to review the provisions of the Copyright Act on a priority basis, according to the 161st Parliamentary Report.

COPYRIGHT IN INPUT AND OUTPUT

Thoughts, themes, and concepts are not protected by copyright, but the material manifestation of an idea is. The existence of copyright in only conceptual inputs is debatable. Copyright must thus be determined in the majority of circumstances with respect to the output, or the resultant expression.

Only works of original literature, theatre, music, or art are protected by copyright. The work must be original and written by a specific author; also, it must have shown at least a minimal degree of creativity throughout its development.

For some time now, people have been debating whether or not third-party copyright is infringed upon when programmes are trained on huge datasets without licences. To prevent web crawlers from collecting their users' data, several platforms have already implemented security measures. To prevent unauthorised access to their material, several Indian news publishers, for example, have disabled Open AI's web crawler.⁵

The issue of whether the final product is creative or infringing on copyright depends on the specifics of each instance. To illustrate the point, the likelihood of copyright infringement increases if the output is a replica of, or very similar to, the picture or information used for training.

AUTHORSHIP

The existence of copyright under the Copyright Act is contingent upon there being a designated “author” of a work. Except in cases of explicit ownership transfer, such as assignment or commissioning agreements, the author usually retains primary ownership of the work.

The person who causes the creation of any computer-generated literary, dramatic, musical, or artistic work is referred to as an “author” under the Copyright Act.⁶ Nevertheless, it would seem that works made using generative AI technologies are not included in the definition of “computer generated” according to the Copyright Act. A related issue is whether the Copyright Act recognises AI tools or other artificial people as creators of works. Judgement and the Copyright Act's language imply that the Act does not recognise any entity other than a natural person as the creator of a work.

⁵ Srivastava K, “Big Move: News Publishers Block OpenAI’s Web Crawler to Protect Content” (Indian Advertising Media & Marketing News – exchange4media, February 6, 2024) <<https://www.exchange4media.com/digital-news/news-publishers-start-blocking-openais-web-crawler-to-protect-content-129662.html>> accessed February 8, 2024

⁶ Rupendra Kashyap v Jiwan Publishing House Pvt. Ltd 1994 (28) DRJ 286.

A US District Court ruling has ruled that generative AI systems' works are ineligible for copyright registration due to their lack of human authorship. The court emphasized the importance of human inventiveness as the foundation of copyrightability and emphasized the need to evaluate intellectual property ownership and use instruments to clarify the confusion surrounding Gen AI-produced work's authorship and ownership.

There was a recent letter from Reuters that warned journalists not to utilise generative AI to generate news articles because it would make it harder to safeguard the company's intellectual property. “Some countries view AI-generated content as not copyrightable,” the letter said, citing the fact that “the terms of some tools required users to relinquish legal rights to content.” Furthermore, the message seems to put the responsibility for material generated by generative AI on the reporters and editors.⁷

GENERATION OF UNLAWFUL CONTENT

There has been a recent uptick in the usage of generative AI technologies for the creation of illegal material, such as deepfakes (phone scams that utilise cloned voices of real persons to commit fraud) or fake news/misinformation.

It seems that human review of information is still necessary to ensure its correctness and general legality. 'Strong control by newsroom editors,' according to the Reuters memorandum, was necessary to guarantee that AI-generated outcomes were up to par in terms of quality, accuracy, and dependability. While utilising such tools, they were also encouraged to be open about the fact that they relied on generative AI in their material and to verify facts, and rectify mistakes, and biases before publishing.

It is not apparent who is liable for such content—the person giving input or the platform/tool creators. Certain businesses, known as “intermediaries” under Indian law, are granted protection or a “safe harbour” from responsibility for material they passively transmit, providing they meet certain requirements. Among other things, intermediaries are not allowed to pick and choose the data that is sent or altered in communications.⁸

LEGAL IMPLICATIONS OF ARTIFICIAL INTELLIGENCE NAVIGATING TRADEMARK LAW CHALLENGES

The term “artificial intelligence” was used to describe computers' capacity to make judgements independently. The phrase “artificial intelligence” (AI) is used to describe software systems and algorithms that can learn from previous experiences and modify their behaviour in response to new information.

⁷ Titan Industries Ltd. v Ramkumar Jewellers, 2012 SCC OnLine Del 2382.

⁸ “MoS Rajeev Chandrasekhar Holds Consultations with Stakeholders on the Proposed Digital India Bill (DIB);” <<https://www.pib.gov.in/PressReleasePage.aspx?PRID=1905639#:~:text=Shri%20Rajeev%20Chandrasekhar%20thereafter%20listed,ri ghts%2C%20managing%20and%20setting%20guardrails>> accessed February 20, 2024.

Simply explained, AI refers to computers that have been deliberately built to learn, reason, or make decisions in a manner similar to how people do so. Artificial intelligence may lessen the likelihood of dangers caused by human mistake. A growing number of businesses throughout the globe are offering reasonably priced AI tools to legal professionals for use in document review, data mining, contract analysis, legal research, and trademark clearance and enforcement. Some businesses boast that they can quickly determine whether a mark is eligible for protection by using machine learning and NLP. Another benefit of these products is that they let you keep tabs on your rivals' trademarks, assess possible infringers, and police your own mark.⁹

Faster, more accurate results may be achieved with the help of AI, which frees up more time for attorneys. The market is flooded with tools and software services that can do pre-filing searches to find out how likely it is that people will confuse two marks that are very similar to each other or to goods and services offered by different companies. These services have a strong preliminary screening process that lets you know if your client can use and adopt the proposed trademark quickly, and they also capture similarities in terms of structure, text, words, devices, logos, images, etc.—so you can advise them to do so with more success.

Current consumer-friendly principles in trademark law include phonetic, auditory, and conceptual similarities; imperfect remembrance; and blurring of trademarks. These principles have their origins in the development of trademark law in the 19th century. Starting with this idea, the existing legislation assumes that the typical consumer is reasonably knowledgeable, careful, and self-aware; however, he or she rarely has the opportunity to compare two marks side by side, so they have to rely on their average intelligence and imperfect memory of the relevant marks.

Nevertheless, just a single valid instance involving the convergence of AI and trademark law has been disclosed so far. The court scolded Amazon for infringing upon Lush's trademarks in the case of *Lush v. Amazon*. Amazon purchased the phrase “Lush” via a Google bidding procedure. According to the contents of the lawsuit, anytime someone types the term “Lush” into the Google search engine, it automatically takes them to Amazon's website. On top of that, instead of taking you to the actual Lush items on Amazon, a search for the phrase takes you to a page that suggests variations on the Lush name. The website's AI is set up to recommend comparable items when users search for certain keywords, which clearly constitutes an infringement. In the case of “*Cosmetic Warriors and Lush v. Amazon.co.uk and Amazon EU ([2014] EWHC 181 (Ch))*”, the court found Amazon guilty of infringement.¹⁰

Trademark attorneys can now take advantage of powerful and intelligent legal technology advancements like these every day to advise clients like never before, meet deadlines, achieve revenue objectives, ensure client

⁹ Yu, Xiang, Runzhe Zhang, Ben Zhang, and Hua Wang. “Challenges of artificial intelligence to patent law and copyright law and countermeasures.” In *The Future of Intellectual Property*, pp. 150-168. Edward Elgar Publishing, (2021).

¹⁰ Katyal, Sonia K., and Aniket Kesari. “Trademark Search, Artificial Intelligence, and the Role of the Private Sector.” *Berkeley Technology Law Journal* 35, no. 2 (2020): 501-588.

satisfaction, and increase profitability. Such a game-changing technology will see even more adoption in the not-too-distant future.

CONCLUSION

The intellectual property rights (IPR) environment has seen substantial changes with the advent of the digital age. The development, distribution, and consumption of intellectual property experienced significant shifts as a result of the internet and other new technologies. This has created new difficulties for consumers, governments, and owners of intellectual property rights. Copyright infringement is one of the main issues with intellectual property in the digital age. The increasing amount of digital content has made it much simpler for people to steal and distribute copyrighted works without authorization. This has made it harder to enforce intellectual property rights and resulted in large losses for intellectual property creators and distributors.

Another challenge is the impact of open-source software on intellectual property. Open-source software is software that is made available to the public with its source code, allowing users to modify and distribute it freely. Because of this, it may be challenging for businesses to safeguard their intellectual property because their code is openly distributable and copyable. There are a number of legal and technological options available to address these issues. Governments can, for instance, enhance enforcement of intellectual property rules. In addition to investigating other business models that depend less on conventional intellectual property rights, companies might employ digital rights management technology to safeguard their intellectual property. All things considered, intellectual property presents difficult problems in the digital age that call for serious thought and creative answers. To solve these issues and make sure that intellectual property is safeguarded in a way that benefits both creators and consumers, all parties involved must cooperate.

The intersection of AI and intellectual property rights (IPR) presents a complex and evolving landscape. As AI technologies continue to advance, they raise a myriad of legal and ethical challenges, particularly in the realms of copyright law. The rapid development and widespread adoption of AI have led to questions about authorship, ownership, and the protection of AI-generated works. Additionally, the use of AI in commercial applications has raised concerns about copyright infringement, personality rights, and the generation of unlawful content.

The legal implications of AI in the digital age are multifaceted and require careful consideration. While AI technologies offer numerous benefits, they also pose significant risks, particularly in terms of intellectual property rights. As such, it is essential for businesses and policymakers to navigate this complex landscape with caution and to develop robust legal frameworks that protect both creators and consumers.

Moving forward, it is crucial for stakeholders to work together to address the challenges posed by AI in the realm of intellectual property. This includes developing clear guidelines for the use of AI in commercial applications, ensuring transparency and accountability in AI-generated content, and establishing mechanisms for resolving disputes related to AI-generated works. By doing so, we can ensure that AI continues to drive innovation and progress while also protecting the rights of creators and consumers.

Law at the crossroads of intellectual property and artificial intelligence is complicated, dynamic, and full of both possibilities and threats. Businesses and people alike would do well to keep intellectual property laws in mind whenever they interact with AI, since these laws are crucial to the development and usage of AI. Individuals and businesses alike may safeguard their assets, foster creativity, and ensure fair and responsible AI usage by familiarising themselves with the role of intellectual property laws in this field. Companies that use AI into their offerings should be alert to the risks associated with this industry and work to safeguard their intellectual property.

At this time, however, there are no concrete suggestions on how intellectual property rules, especially in India's framework, may be restructured to better include the rapidly developing area of artificial intelligence. Legal experts, legislators, and other interested parties must work together to design legislation that encourages the research, development, and implementation of AI systems while also safeguarding intellectual property rights. If we want to keep people safe, let AI reach its full potential, and protect intellectual property rights, we have to handle these problems very carefully.

No sector of society is immune to the pervasive and ever-changing effects of AI on the IP market. So, to prevent current IP laws from becoming collections of readily exploitable flaws, unable to provide holders protection or exclusive rights over IPs created by AI, there is an on-going need to investigate and reform their fundamental structures. There may be a need to revise intellectual property rules so that AI-generated notions are expressly recognised and included. In addition, existing IP laws should be revised to include sections that address AI rights and infringement issues. Additionally, adjudicators should possess sufficient education in the area of AI to provide reliable verdicts in these types of disputes.

It is expected that all IP offices would adopt a uniform approach to tackle the problems caused by AI-generated innovations, as AI is web-based and hence accessible and usable by everyone.