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The Copyright Regime in the Age of Social Media: An Analysis with Special Reference to Free Speech

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Abstract

The rapid convergence of artificial intelligence (AI) tools and social media platforms has led to a massive increase in digital content creation, fueled by technologies such as meme generators, auto-reel editors, and remix software. Though the phenomenon supports creativity, it also introduces new problems to the copyright law, as the boundaries between original works and derivative creations, be they parodies, remixes, collaborations, or satires, become increasingly difficult to differentiate. The blurring of these boundaries further complicates the process of enforcement and interpretation within Intellectual Property (IP) provisions, challenging our longstanding definitions of the traditional Intellectual Property Framework.

The article engages with the evolving culture of digital virality to highlight the unique legal conundrums that arise when AI-assisted and user-generated content circulate on such a large scale. It analyses the platform's responses regarding the issue, ranging from algorithmic content moderation to severe notice-and-takedown systems.

A key focus of the study lies in the Indian legal context, where the distinction between the right to ownership and the right to use is examined in light of the rapid increase in social media's remix culture. By exploring platform practices along with the statutory laws focusing on the right to ownership and right to use, the article analyses whether existing legislative frameworks are sufficient or require adaptation and modifications, and which one should take precedence while balancing creativity and innovation against the Individual's copyright.

Keywords: artificial intelligence (AI), social media, Intellectual Property (IP), digital virality.

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Introduction

As there has been advancement in technologies across the globe, there is a rapid change in every activity and work. A notable event is that the convergence of artificial intelligence tools and social media platforms has fundamentally affected contemporary content creation with the help of technologies like meme generators, auto-reel editors, etc., producing large-scale digital content. On one side, it encourages participation in creativity; on the other hand, it complicates the application of copyright law because the distinction between original works and derivatives, like parodies, remixes, satires, and memes, becomes blurred. Such challenges the traditional assumptions underlying Intellectual Property frameworks, particularly in 'Right to Use' and 'Right to Ownership'.

Copyright law was originally framed to protect original and identifiable works. Now, it operates within a developed digital framework, where, apart from AI-generated content, there has been increased posting and reposting of content, often without consent and permission. Enforcement practices on social media platforms are done through automated moderation systems and rigid notice-and-takedown mechanisms, which largely prioritise ownership rights over real fact-wise assessment. Due to this, even the lawful and socially valuable contents such as criticisms, commentaries, satires, etc., come under copyrighted content and are thereby restricted. The problem extends to access to knowledge, access to information and the potential effect on freedom of expression in such digital space.

The article examines these issues within the legal Indian legal framework, focusing on the continuing tension between the right to ownership and the right to use under Copyright law. Along with statutory governance, it also analyses the platform governance practices, which assess whether the contemporary framework balances creative incentives with expressive freedoms. The article, then, includes, comparative analysis of the United States and the European Union, representing two contrasting approaches to deal with copyright protection, one very flexible and user-friendly, while the other is stricter and right-holder focused. The article then explores the growing tensions between copyright enforcement and free speech, and argues whether any reform is necessary or the contemporary framework is well-balanced for both the user and rightsholder and free speech and copyright enforcement.

AI Assistant Tools and Virality

With the rapid advancement of technologies like machine learning and natural language processing, with the help of human intervention, there has been a significant increase in the work generated by Artificial Intelligence ("AI"). AI tools learn human language via models like Natural Language Generation (NLG) and Natural Language Processing (NLP). These methods are devised by computer science that is proficient in generating human spoken or written content using data sets[2].

There has been a rapid rise in the use of AI-assisted tools across all spheres of life. This is driven by their versatile nature as one AI system, like Gemini, can help one address various academic questions, analytical and mathematical queries, enrich understanding, assisting in multiple works like research, coding and technical tasks, and supports in organising and planning., The advancement in use of AI tools has also catalysed creative works like preparing captions, hashtag ideas, trend analysis, creating memes, enhancing virality strategies, improving reels, TikTok scripts, and many more that has taken creativity to an unimaginable level At times, social media platforms themselves offer built-in AI tools for example Instagram, TikTok, and YouTube, each have their own. While there are numerous external applications such as CapCut, Canva, CopyAI, Lumen5 and AI meme makers that provide such AI tools to provide unique and creative ideas just by putting your thoughts into words as prompts within seconds. The underlying factors for the widespread adoption of AI tools can largely be attributed to the fact that they hardly require any prior skills to produce better content while also saving considerable time. Instead of demanding expertise, significant human labour, these tools only require an idea, its expression in a few words, and the result will be ready instantly. This has resulted in a tremendous rise in the use of such tools and of creation and re-creation in social media content. Therefore, this cycle of creation, re-creation, uploading, and reuploading ultimately results in the virality of the content.

These AI assistant tools work through automated editing, template-based generation, algorithmic matching of visuals to audio, auto-captioning, and even text-to-image or text-to-video synthesis[3]. For example, meme generator applications allow users to provide minimal commands, in the form of prompts, to generate the desired meme formats. By using these

[2] *International Journal of Creative Research Thoughts*, '[Article title unknown]' (IJCRT 2024) https://www.ijcrt.org/papers/IJCRT2404147.pdf accessed 11 November 2025.
[3] Shaw M and Puja Devgun, 'AI in Content Creation' (2025) 7 *International Journal for Multidisciplinary Research*.. https://www.researchgate.net/publication/392874320_AI_in_Content_Creation/citations accessed 11 November 2025.

functions smoothly on regular platforms, users have an easy way to access and engage with various forms of digital creativity, such as parody, satire, mashups, collaborations, and remixes. When these digital creativities inspired by AI assistant tools get through the process of creation, re-creation, uploading and re-uploading, it ultimately results in virality.In the process of creating any content to make it viral, users usually do not start from scratch; instead, they work upon the already existing content by slightly transforming small portions or other elements to give it meaning. However, this use of existing content to modify into new content disrupts the boundary between an original work and a derivative work, making it difficult to differentiate between the two. Furthermore, using the pre-existing materials like images, clips, music, dialogues, scripts, etc. for making new content involves a potential risk of infringement of the copyright of the original owner or author of the pre-existing content. The reasons for such use can be many, like making parodies, satires, remixes, memes, etc., which require a base material to exist. If copyright infringement were to apply to every use of existing material, then no such content could be created. Different jurisdictions have varying laws and scopes to address these issues. We will deal with the legal jurisdictions of India, the EU and the US further. Thus, not all uses of existing content can be considered infringement of the copyright. However, the problems arise when the user directly makes any copyrighted material in use as a base to create a derivative work or reposts it without the prior permission or approval of the copyright owner, leading to copyright infringement.

In case of infringement, there are certain ways to deal with it. First, Digital platforms ("platforms"), where content is being shared, reshared and consumed, themselves have a mechanism to deal with such posts, uploads or reposts that involve copyright infringement. If problems still persist or the platform lacks an appropriate means to deal with the cases of infringement, copyright law provides legal remedies before a judicial body.

Platforms usually deal with infringement issues through automated detection and matching systems, notice-and-takedown procedures, penalties, and copyright strikes. For instance, YouTube and Facebook have implemented automated content recognition tools such as Content ID and Rights Manager to monitor and detect content that is infringing. These tools give the copyright holders some rights to block, monetise, or track unauthorised uses of their content[4]. This paper will provide a detailed examination of how YouTube uses Content ID to detect

[4] LexDMCA, 'The Role of DMCA in Social Media Copyright Enforcement' (LexDMCA Blog) https://lexdmca.com/blog/casestudy/the-role-of-dmca-in-social-media-copyright-enforcement/ accessed 11 November 2025.

copyright infringement in the latter part. If a user disregards valid copyright claims, it may lead to copyright strikes, and multiple strikes can result in the termination of the channel[5]. In copyright law, transformative works are an exception to infringement, as they are considered new works in themselves. However, in many instances, even a slight or minor use of existing work, on a platform like Instagram, attracts copyright infringement claims, remaining an inadequately addressed issue for most digital platforms.

Contemporary Legal Frameworks for Copyright Infringement

i. What constitutes Copyright Infringement: Indian context

According to the Copyright Act, 1957, 'copyright' means "the exclusive right subject to the provisions of this Act, to do or authorise the doing of any of the following acts in respect of a work or any substantial part thereof the work."[6] The works may include various "original literary, dramatic, musical, and artistic works, as well as cinematograph films and sound recordings."[7] Thus, the copyright grants the right to do or authorise certain acts with respect to the protected work. When such a protected work is used by an unauthorised person, it leads to copyright infringement. In the context of social media, the subject matter of copyright protection includes images, text, and scripts, which are often infringed by reproduction, adaptation, distribution, public performance or communication to the public of protected work.

The Copyright Act says that "infringement occurs when a person, without a licence or in violation of its terms, does anything that only the copyright owner is entitled to do, or permits the communication of the work to the public for profit, or distributes/sells/lets for hire, infringing copies of the work"[8]. The copyright owner enjoys exclusive economic rights and moral rights for these works. These are basically the ownership rights of the owner. Thus, when Section 51 is read in conjunction with Section 14 of the Act, any unauthorised act that violates the exclusive rights of the owner constitutes copyright infringement. In the context of social media, uploading any copyrighted image, copyrighted video, or reposting someone's creative work like music, reels, memes, etc., without permission will constitute infringement.

[5] Google, 'Copyright and Content ID' (YouTube Help) https://support.google.com/youtube/answer/2814000 accessed 11 November 2025.
[6] Copyright Act 1957 (India) s 14.
[7] Copyright Act 1957 (India) s 13.
[8] Copyright Act 1957 (India) s 51.

Section 51 of the Copyright Act provides that copyright is infringed when any person exercises any exclusive rights conferred to the owner, without a valid licence or in breach of licence conditions or knowingly permits a place to be used for profit for the unauthorised communication of the work to the public. Infringement also takes place in commercial dealings in infringing copies, including making, selling, hiring, displaying, distributing, publicly exhibiting, or importing such copies in a manner that affects the copyright owner, subject to exceptions.

Therefore, in contemporary times, the ongoing practices of sampling music, remixing video, re-editing visuals, or AI- AI-assisted derivative creations that involve protected materials amount to copyright infringement. An individual often uses the pre-existing music, photograph or other audiovisual content to create a meme, remixes, or other derivative outputs without the owner's authorization to gain popularity, increase engagement on the platforms or earn through those derivatives. In this way, the person unlawfully exploits the exclusive economic rights of the copyright owner, like "rights of reproduction, adaptation, and communication of the work to the public"[9]. For example, contemporary social media involves the creation and circulation of memes. Where a meme is created by the owner, any unauthorised activity, including reposting, reproduction, or dissemination of such work, will constitute infringement.

ii. What is NOT Copyright Infringement: Statutory Exceptions and Defences

As we know, protecting all the works so that no one can use it for any purpose will result in various problems and unnecessarily increased work in various works like research or other works that require the use of such materials. It also sounds impractical to ask for permission again and again for small to big works. Therefore, against the right of ownership, some 'Right to Use' must also exist so that the protected work can be used in a specific manner without attracting copyright infringement. Section 52 mentions acts that do not result in copyright infringement. This includes, for example, fair dealing with any work. "Fair dealing includes acts for private use of research and study, for criticism or review of work or reporting of current events and current affairs."[10] The other examples include incidental storage during electric transmission, making backup copies of legally obtained computer programs, reproduction of any work for judicial or legislative reports, use of such works by educational institutions in a

[9] ibid
[10] Copyright Act 1957 (India) s 52.

certain manner, etc.[11] The fair-dealing provision is exhaustive in nature as it enumerates list of certain acts that are exceptions to copyright infringement, leaving a narrow room for interpretation, unlike broader concepts of 'fair use' as in the US.

However, due to this specificity in Indian Copyright law regards fair dealing, the room for interpretation to see whether an act should be considered infringement or not is negligible. Works like memes, remixes, satires, etc., find no space in the act; therefore, such digital works remain ambiguous. All facts and circumstances are different, and each requires a specific approach to deal. Therefore, fair dealing, being so constrained in its approach in the huge virtual world, leads to ambiguity in the field of copyright.

iii. Right to Ownership v. Right to Use

The copyright act on one hand provides for exclusive rights to owner to enjoy exclusive economic and moral rights in case of reproduction, adaptation, distribution, etc., in order to protect the author against unauthorized exploitation of their works and preserve their rights, while on the other provides for Right to Use for the users to use the protected works through statutory exceptions of fair dealing or authorized licenses. The intention behind providing for the Right to use in the given ways is to enable social benefit via research, criticism, commentary, remixes, parodies, satires, etc. However, the question persists whether the 'Right to Ownership' should gain dominance or the 'Right to Use'. Right to Ownership focuses more on an individualistic approach to protect the work of an individual, while the Right to Use, though, supersedes that approach but enables other creative works to be obtained through the available works, by taking inspiration or following a manner if done lawfully.

In the age of social media, where AI-assisted content creation is used in significant numbers, users mostly rely on the 'Right to Use' in order to transform, remix and share the existing works. But in contrast, ownership rights are very broad, exclusive rights, while the Right to Use is a very narrow and exhaustive list, which is not able to accommodate the wide range of activities happening on the various platforms. This ultimately results in copyright infringement of most of the works. Platforms, through their automated filters and other applications, handle such acts so technically that result in claiming most of the works like parody or remix as infringement. Therefore, all of this leaves very little room for works that involve

[11] ibid

transformation. In India, the Right to Ownership gains dominance over the right to use, which is quite problematic for a few of the works.

Thus, in the realm of social media, the problem with the available legal framework remains that there always seems to be uncertainty as to what really counts as 'fair dealing' for works or transformative works like memes, parody, satirical remix or other transformative AI output. The law provides for a very narrow definition of what constitutes fair dealing and the platforms also mostly over-enforce such creative works. The question for derivative works or AI-generated content also remains there.

Comparative Analysis: US and EU

Both the United States ("US") and the European Union ("EU") have been developing their legal frameworks over time to accommodate the evolving needs of copyright protection. On one hand, the US follows largely a utilitarian philosophy which promotes public progress by giving broader freedom to the public to use the protected works, while the EU, on the other hand, adheres to the 'Authors rights' philosophy, under which laws are made to protect the author's personality and provide wider control over their works. The chapter will discuss the form of the laws, how the exceptions are framed, and the status quo of their application.

i. United States

In the US, copyright law is primarily codified under the Copyright Act of 1976. The law, being broader, extends to all sorts of works that are original, works of authorship, and expressed in a tangible form[12]. Originality, here, does not mean an invention, but an independent product of the author's creativity, having a unique form of expression which is not a copy of an existing expression or work[13].

In the US, to qualify for originality, a minimal level of creativity is thus required. The US SC in *Feist Publications* held that the materials did not qualify for the protection of copyright because they did not contain a minimal level of creativity.[14] *Accordingly, expressions that don't*

[12] 17 USC § 102(a).
[13] Deborah E Bouchoux, *Intellectual Property: The Law of Trademarks, Copyrights, Patents, and Trade Secrets* (4th edn, Cengage Learning 2012) 193.
[14] *Feist Publications Inc v Rural Telephone Service Co Inc* 499 US 340 (1991) 1294.

contain any creativity and are just rote, obvious and mechanical will not be qualified for the protection. Copyright protection grants exclusive rights to the author for the "reproduction, distribution, preparation of derivative works, public performance of literary, musical, dramatic, choreographic works and other audiovisual works, and public displays of paintings, sculptures, and similar works."[15].

The guiding principle of U.S. Copyright law is to encourage the creation of literary and artistic works so that the public can have access to knowledge for further creativity[16]. It may seem surprising that, despite being a leading proponent of capitalism on a global stage, the U.S. still places more on public rights and privileges than on the author's exclusive moral and economic rights. This is mainly expressed in exceptions provided under the 'Fair Use' doctrine. When a work falls within the scope of the fair use doctrine, it can be exempted from copyright liability. If any use qualifies as fair use is determined by the four-factor test prescribed by the statute, that "includes: *(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work*."[17] Therefore, the list is inclusive rather than exhaustive and depends on the specific facts and circumstances of each matter, rather than a single line applicable to all sorts of cases. Apart from this doctrine, another one that limits the exclusive rights of the author is the first-sale doctrine.[18] This doctrine restricts the exclusive right of the owner to control the distribution of a particular physical copy of a work after its authorised sale. After lawfully buying a copy of the copyrighted work, the consumer is free to sell, lend, or give away the copy without having to ask permission from the original copyright holder.

This liberal approach of the US copyright law, especially through the fair use doctrine, plays an important role in building and developing an environment conducive to innovation and critical discourse. Such acts of permitting copyrighted content for different purposes like criticisms, commentary, education, research, etc., the law ensures healthy discourse while not operating as a monopoly over expression. such flexibility is essential to support new forms of creativity, especially in the digital era, where remixes, sampling, and user-generated works

[15] 17 USC §§ 106, 113–115, 120.
[16] *Twentieth Century Music Corp v Aiken* 422 US 151, 156 (1975), where the court proclaimed that the "ultimate aim" of the US copyright law is to enable artistic creativity for the general public good.
[17] 17 USC § 107.
[18] 17 USC § 109(a).

form an integral part of contemporary culture. As a result, copyright law in the US not only protects creativity rather than being a little liberal in approach, facilitates continuous creative engagement. This also helps in the prioritising of access to knowledge and transformative creativity. Thus, U.S. copyright law shows a pragmatic balance between private ownership and public benefit.

ii. European Union ("EU")

Copyright law in the EU is not a single, unified legal system; rather, it contains a bundle of national laws that are harmonised through EU directives. Previously, the law was less harmonised due to various barriers, such as historical, cultural, and linguistic diversity among the member states of the EU, with the limited trans-border economic significance for artistic works. However, harmonisation efforts to create a more consistent framework have grown in recent times due to the rise of digital technologies and increased economic interests in various areas like software and databases[19].

The present copyright law in the EU is governed by a statutory framework that consists of 13 directives and 2 regulations that harmonise essential rights for authors, performers, producers, and broadcasters[20]. Most of these directives are intended to ensure the EU's compliance with international obligations under the Rome Convention, Berne Convention, TRIPS Agreement, WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty.[21] The principal legislative instruments include the *Information Society Directive and the Directive on Copyright in the Digital Single Market*. These instruments basically ensure copyright protection and set common standards in order to reduce national discrepancies and promote cultural diversity. Apart from the legislature, the Court of Justice of the European Union ("CJEU"), too, through various cases and judgments, has been actively involved in the harmonisation of Copyright at the EU level through various cases and judgements. One of the fundamental requirements of copyright protection is originality. Through various judgements,

[19] Eleonora Rosati, 'Copyright and Artificial Intelligence' (2023) *International Review of Intellectual Property and Competition Law* https://link.springer.com/article/10.1007/s40319-023-01357-0 accessed 18 November 2025.
[20] European Commission, 'Copyright Legislation' (Digital Strategy) https://digital-strategy.ec.europa.eu/en/policies/copyright-legislation accessed 18 November 2025.
[21] ibid

the CJEU has "harmonised the general criterion of originality as an *author's own intellectual creation* for all works in EU Copyright law."[22]

While the primary objective behind these frameworks is to balance the author's rights with consumers' access to works, the scope for user-oriented exceptions remains comparatively limited. Though the exceptions exist for "quotation, criticism or review, caricature, parody, and pastiche, along with educational use, research, and text-and-data mining, particularly for non-commercial and scientific purposes."[23] However, these exceptions are mostly optional for the Member states and are subject to strict interpretations, which often result in overemphasis on Rightsholder's rights.

One of the most important articles, Article 17 of the Directive on Copyright in the Digital Single Market (2019/790), emphasises platforms' responsibility to prevent unauthorised uploads of copyrighted content. The provision, while intending to strengthen authors' rights has resulted more in encouraging overly restrictive platform practices that prioritise technical compliance over expressive freedom. Consequently, both laws and judicial interpretations enforce stricter platform responsibility and tend to bend towards upholding authors' rights more than the user's accessibility.

These developments have impacted social media virality culture by imposing stringent rules on free expression in user-generated content. Both the laws and their interpretation need to be liberalised to achieve a genuine balance between the author's rights and the user's rights.

Free Speech and Copyright Laws

Freedom of speech is a basic human right, which is mentioned in Article 19 of the UDHR[24] or in ICCPR.[25] The right also gets reflected in most of the democratic countries of the world. There remains a plethora of examples around the globe where we hear about different protests, oppositional movements, etc., when freedom of speech is curtailed.

[22] Case C-5/08 *Infopaq International A/S v Danske Dagblades Forening* [2009] ECR I-6569, ECLI:EU:C:2009:465, para 37.
[23] Directive 2001/29/EC (Information Society Directive) art 5.
[24] United Nations, 'Universal Declaration of Human Rights' https://www.un.org/en/about-us/universal-declaration-of-human-rights accessed 18 November 2025.
[25] International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) art 19.

Freedom of speech is an important right for many reasons. It facilitates circulation of ideas, opinions, and information within the public sphere. Prima facie, the right to speech means that every person should have the freedom to speak. Any act by anyone that curtails the right is wrongful and liable for punishment. However, the scope of the right extends beyond mere verbal articulation. Speech also contains the expression of thoughts, beliefs, and creative outputs in various forms. The Indian Constitution also recognises 'Freedom of Speech and Expression' as a fundamental right.

An important analytical question lies that why expression itself is important. What exactly does it entail? How does this freedom of expression, which is a human right topic, relate to Intellectual Property Rights? Freedom of Expression is basically the freedom to express one's opinions, thoughts, skills, talent, etc. Whenever one shares their views or seeks out information, online or offline, one is exercising the right to freedom of expression. This encompasses activities such as criticising the government, questioning religious practices, legally protesting against policies, creating works of art, commenting on news articles, and performing artistic works, etc., all of which constitute the right to freedom of expression. The right is important because it enables and facilitates dialogue, builds understanding, and increases public knowledge. The right is basic to diverse expression and creativity, and innovation.

According to Article 19 of ICCPR, the right includes the freedom to **seek, receive and impart** information in any form through any media.[26] Other various frameworks such as "the African Charter on Human and Peoples' Rights", "the European Convention for the Protection of Human Rights and Fundamental Freedoms", "the American Convention on Human Rights, ASEAN Human Rights Declaration", etc., also recognises that the right to freedom of expression includes both the right to receive and impart knowledge or opinions.

As we have seen so far the status quo of Copyright protection in various countries, the basic question that arises regarding the relationship between the two is whether the Copyright law defeats freedom of expression or promotes it. The core purpose of the Copyright law is to promote creativity, and its regulatory framework is designed to ensure greater public involvement in creative works. This objective is achieved by a) granting protection to original works, (b) incentivising innovations and creativity, and (c) sanctioning those who use such protected works without the acknowledgement of the author. It may seem at a superficial level that the Copyright law restricts freedom of expression by protecting the author's work and

[26] ibid

limiting their unauthorised use, as it curtails access to knowledge. However, the copyright law and the incentives it provides to creativity do not operate as a curtailment of free speech. Rather, copyright law functions as a balancing mechanism between freedom of expression and its misuse, ultimately reinforcing and strengthening the value of free speech and expression.

This can be explained as. When the copyright law protects the owner's works, it acknowledges them for their creativity and incentivises them for the use of their work for any purpose. This ensures that after getting such protection, moral and economic benefits, the public is encouraged to be more involved in creative works. This will ensure that more such works come out in the market, and this will lead to more expression in the market, eventually strengthening the right. There will be more expressions, works, and creativity available in the market so that more people can have more access to information and knowledge. Secondly, it gives the author exclusive control over their work to decide how it should be used. Such helps in preventing immoral use, plagiarism, copying, etc. In this way, copyright enables other rights encompassed under the freedom of expression, i.e., the right of privacy.

However, there will be a problem if all the works are subject to copyright control; then, the easy availability of ideas or information will be affected, which will eventually defeat the purpose of freedom of expression. But the copyright law provides a normative space by incorporating exceptions and defences, which ultimately balance protection of free speech & expression with the prevention of its violation. Those exceptions include Fair dealing in India, Fair Use in the US, and other statutorily recognised exceptions and limitations in various jurisdictions, including both common law and civil law systems. These defences ensure that certain works should be allowed to be used for public use, such as for educational, research, and scholarly purposes.

Therefore, the problem does not lie primarily with the framework itself. However, it cannot be denied that a few stringent things, like rigid and mechanical platform governance, or misuse of copyright law by governments, corporate entities, and other powerful rights-holders have the potential to suppress the criticisms that are expressed through parodies, satires, or memes, and similar forms of creative expression. These concerns can be resolved by updating the copyright framework, aligning its application with the values underlying Article 19 of the Indian Constitution and adopting a more liberal approach towards such creative works. Such approach would reduce the ability of state authorities, corporate giants, and other influential actors to misuse copyright law as a tool to silence critical or dissenting expression.

One prominent example of the misuse of laws or overly stringent policies that lead to the prohibition of free speech is YouTube's Content Id system. The example is particularly relevant because YouTube is one of the largest digital platforms in existence, with approximately 2.8 billion users worldwide.[27] In India alone, the platform has around 467 million active users.[28] The platform, which is used by such a large number of people to exercise the freedom of expression, is also the platform which restricts the freedom of expression in a large number. The Content Id of YouTube functions as one such mechanism, enabling automated enforcement of copyright claims that can result in the removal, demonitization, or blocking of content, often without fair use assessment.

In January 2020, a law school posted a video of a panel called "Proving Similarity" who were showing how the experts were analysing music for copyright infringement. YouTube's content Id had already declared it infringed, but the panel and the experts of IP Law reached the conclusion that the video did not infringe copyright. Moreover, YouTube restored the video but never answered the cause of taking it down in the first place. This is just an example among many to illustrate the *** nature of YouTube's Content Id.[29]

The procedure of the Content ID as claimed by YouTube is that first, "videos uploaded to YouTube are scanned against a database of files have been submitted by rightsholders."[30] If a match is found, YouTube can block the video from public view; the right-holders may monetize the video by demanding revenue or data of the video's viewership will be shared with the right-holders.[31] A significant concern with this system is that a match may be triggered even by a few seconds of content taken from hours-long material. Content ID handles almost 98 per cent of the copyright claims on the platform.[32]

Many creative works, particularly music and audiovisual content, for example, are produced through collaboration, remixing, or transformative use. Though some legal systems recognise

[27] Global Media Insight, 'YouTube Users Statistics' https://www.globalmediainsight.com/blog/youtube-users-statistics/ accessed 22 December 2025.
[28] The Global Statistics, 'YouTube Statistics' https://www.theglobalstatistics.com/youtube-statistics/ accessed 22 December 2025.
[29] Electronic Frontier Foundation, 'Unfiltered: How YouTube's Content ID Discourages Fair Use' https://www.eff.org/wp/unfiltered-how-youtubes-content-id-discourages-fair-use-and-dictates-what-we-see-online accessed 22 December 2025.
[30] ibid
[31] YouTube Creator Academy, 'Respond to Content ID Claims' https://creatoracademy.youtube.com/page/lesson/respond-to-content-id-claims_copyright-content-id-overview_image accessed 22 December 2025.
[32] Electronic Frontier Foundation, 'Unfiltered: How YouTube's Content ID Discourages Fair Use' https://www.eff.org/wp/unfiltered-how-youtubes-content-id-discourages-fair-use-and-dictates-what-we-see-online accessed 22 December 2025.

transformative use as 'Fair Use' or 'Fair Dealing' but such contextual evaluation is largely absent from automated systems like Content ID. The system does not assess whether the use in the work is transformative, critical, or parodic. Such sensitivity impacts the users who want to make content involving reviews, memes, or parodies, especially for any movies or music, etc., because such content is frequently blocked, demonetised, or subjected to revenue diversion, leading to financial and expressive consequences for users, particularly independent creators who rely on such platforms for their livelihood. Therefore, the main task has not been to promote creativity but to pass Content ID.

Moreover, meaningful redressal mechanisms remain weak. Content creators have limited scope to challenge Content ID claims, as communication from the platform is minimal.[33] The only check on the Content ID lies with the willingness of the users to raise dispute on such matches; however, such also works on the whims of the system itself. Since most of the Content ID database is collected primarily by large rightsholders. Therefore, anyway, it is the large media companies with enough of resources that benefit from it, not the small content creators making content for their livelihood. Therefore, in order to protect the large companies' 'Ownership Rights', the system ignores the small creators' 'Right to Use'. In this way the free speech is affected via the name of the Copyright Law.

Apart from the platform governance, there has been similar issues arise from the manner in which governments invoke copyright law in order to suppress criticism. Many times, the government does this even when there is no such claim from the owner due to the desired intent of suppressing critics. Copyright law is used by the government for Censorship rights. For example, "the Indian government asked Twitter and YouTube to remove the videos and tweets related to a documentary by the BBC, which focused on the Gujarat religious riots in 2002."[34] Though the BBC did not initiate the takedown requests, the government cited the reasons for taking down requests to be for violations of IP rights. It is very clear that Section 52 of the Indian Copyright Act states that criticisms, reviews or reporting events are treated as an exception; taking down such videos is nothing but misusing copyright laws as a form of censorship, thus restricting free speech.

[33] ibid
[34] Information Technology and Innovation Foundation, 'Indian Government's Use of Copyright Infringement Claims as a Form of Censorship Is Harmful' (ITIF, 25 January 2023) https://itif.org/publications/2023/01/25/indian-governments-use-of-copyright-infringement-claims-as-a-form-of-censorship-is-harmful-says-itif/ accessed 4 January 2026.

Conclusion

Copyright protection acts as both a sword and a shield—a sword against infringing works and a shield for works enjoying copyright protection. However, when it performs different functions for different works, it undermines the very purpose for which it exists. This is particularly evident in the case of derivative or transformative works, whether created with the assistance of AI or not, on social media platforms to convey a message which, though inspired by a copyrighted work, possesses its own originality.

By delving deep to know the difference and the conflict between the ownership rights and the use rights. We observed that ownership rights get prominence over the use rights via different examples of platform governance, mechanical takedowns and government censorships that all work in a way to protect the big players while increasing the burden on the small creators. While doing so, the free speech of the users is barely taken into account by any of the entities in power, be it big social media platforms or the government.

The mechanical application of the Indian copyright framework in this digitised, creative, and fast-paced world has a chilling effect not only on freedom of speech and expression but also on scientific temperament, creativity, and the right to be heard. It prevents the novel forms of expression that are prevalent in contemporary society. As Justice P.N. Bhagwati observed, *'Law is not static. It is a living organism and must grow and develop with the needs of society*.' Indian copyright law must therefore adapt to societal changes and needs in a manner that furthers the objectives of copyright protection.

In this regard, reference may be drawn from the comparative jurisprudence of other jurisdictions, such as the U.S. and the E.U., particularly concerning the evolution of copyright provisions to address the demands of contemporary society in the case of derivative works posted, reposted, shared, or uploaded on social media platforms. There is a need for a balanced approach to promote creativity and freedom of expression while promoting copyright protection to original works.

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Patentability of Pharmaceutical Inventions Under Indian Law: Between Innovation Incentives and Access Imperatives

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Abstract

Today, Leukemia patients in India can be kept alive with a generic drug which costs a few hundred dollars a year, and in high-income countries costs thousands of dollars a month. This marks a long shift in approaches. In this paper, patentability of pharmaceutical inventions in India is looked at, in terms of intellectual property ('IP') law and local health needs of the population. It follows development of Indian patent system since the process-patent (pro-generic) system of Patents Act 1970[2], and subsequent amendments.[3] The 2005 amendment[4] reintroduced product patent for pharmaceuticals. It is against this background that the paper examines substantive and procedural contours of patentability in Indian Patents Act with specific focus on Section 3(d), compulsory licensing, opposition and interface between patent law and drug regulatory approvals. As compared to jurisdictions in other parts of the world, including United States, European Union, Brazil and South Africa, access sensitive nature of India is distinct. The paper evaluates whether the current Indian framework strikes the right balance between incentives to pharmaceutical innovation and needs to affordable access to medicines and suggests some more limited reforms to enhance quality of patents, protect TRIPS flexibilities, and reposition pharmaceutical patent policy to be more consistent with constitutional promises of public health.

Keywords: Pharmaceutical patents, Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), Drug regulators, intellectual property (IP).

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[2] The Patents Act 1970 (Act 39 of 1970).
[3] *See, generally*, The Patents (amendment) Act 1999 (Act 17 of 1999); The Patents (amendment) Act 2002 (Act 38 of 2002, and The Patents (amendment) Act 2005 (Act 15 of 2005).
[4] The Patents (amendment) Act 2005 (Act 15 of 2005).

Premise

Patentability of pharmaceutical inventions is an area of international trade law, national IP policy, and governance of health especially that is notably contested.[5] This opposition is particularly keen in India. The manner in which Indian law is prescribing and restricting what constitutes a patentable invention with respect to pharmaceutical products, directly affects not only the incentive to innovate within domestic pharmaceutical sector. But also access to and affordability of drug in both India and in most other low and middle-income countries that rely on the Indian generic versions of products.

The patent policy in India has traditionally been influenced as much by developmental and public health factors of the country as by traditional reasons of protection of intellectual property.[6] the Patents Act [7] specifically chose not to patent products in food and pharmaceutical sectors, restricted protection in these areas to processes, and balanced this with comparatively short terms and a strong compulsory licensing system. This legislative structure helped in development of a robust domestic generic sector and helped in massive drug cost-cuts.[8] This settlement was however fundamentally shaken with entry of India into WTO and its enactment of TRIPS Agreement.[9]

TRIPS Agreement mandates member states to grant patents without division based on any field of technology and must have a term of at least twenty years on the date of filing.[10] The incremental conformity of India, which ended in Patents (Amendment) Act 2005,[11] reinstated product patents on pharmaceuticals and chemicals, but at the same time tried to maintain regulatory independence in a series of built-in safeguards.[12] The said safeguards, especially the Section 3(d),[13] which limits the patentability of new forms of already known substances unless they are shown to have increased therapeutic efficacy, and the enhanced procedures in pre-

[5] Ramzi Hamdani, 'Framing the Debate: Pharmaceutical Patents and the Right to Health under International Law' (2025) International Journal of Scientific Research and Management (IJSRM), volume 13, issue 07 < https://doi.org/10.18535/ijsrm/v13i07.lla02> accessed 27 December 2025.
[6] Law Commission of India, *Trade Secrets and Economic Espionage* (Report No 289, 2024) para 117.
[7] *Supra* n1.
[8] n (Report 289).
[9] The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS).
[10] TRIPS Agreement art 27, 33.
[11] Patents (amendment) Act 2005.
[12] Ibid; Chandni Raina, 'Trade Secret Protection in India: The Policy Debate' (Centre for WTO Studies Working Paper No CWS/WP/200/22, Indian Institute of Foreign Trade, September 2015) <https://wtocentre.iift.ac.in/workingpaper/Trade%20Secret%20Protection%20in%20India-%20The%20policy%20debate.pdf> accessed 26 November 2025.
[13] The Patents Act 1970 (Act 39 of 1970), s3(d).

grant and post-grant opposition, a formal compulsory licensing regime, and a Bolar-type exception;[14] have produced what is now commonly referred to as a unique Indian treatment of patentability of pharmaceutical inventions. This style is also marked by a mostly conservative attitude towards so-called TRIPS-plus provisions, including regulatory data exclusivity and extensions of the term of patents, often requested in bilateral and regional trade talks.[15] Collectively, these factors make India a jurisdiction that is predominantly consonant with TRIPS Agreement, but which is strategically sensitive to maintain access to medicines and industrial policy space.

The overall normative question that drives this paper could be put this way: *to what degree, and in what doctrinal setup, must pharmaceutical inventions be patentable in India, to ensure the realization of actual therapeutic innovation without unnecessarily jeopardizing the access to affordable medicines and commitment to constitutional adherence to the health of the people?* To answer this question, it is not possible to simply describe statutory provisions. It seeks an integrated approach to analysis that is both doctrinal, historical, comparative, and policy-oriented, which places Indian patent law in a wider context of TRIPS architecture and its flexibilities, as well as it approaches the contemporary issue of evergreening, biologics, and pandemic-related technologies.

The paper has four inter-related goals. *Originally*, it follows how legal provisions of patentability of pharmaceutical inventions in India have developed since the process-patent paradigm of the 1970 Act,[16] to TRIPS-consistent yet protectionist regime that has been developed over 1999,[17] 2002,[18] and 2005[19] reforms. *Second*, it clarifies modern-day boundaries to patentability of pharmaceutical inventions in the Patents Act (as amended), with particular focus on interaction between general requirements of novelty, inventive step, and industrial applicability, on the one hand, and exclusion and qualification in section 3,[20] particularly Section 3(d),[21] on the other, and on antidotes to such mechanisms, including opposition proceedings and compulsory licensing. *Third*, it places Indian framework in the TRIPS regime and Doha Declaration on TRIPS and Public Health, how India has invoked and exercised

[14] The Patents Act 1970 (Act 39 of 1970), s107A.
[15] *Supra* n6, 9.
[16] *Supra* n4.
[17] The Patents (amendment) Act 1999 (Act 17 of 1999).
[18] The Patents (amendment) Act 2002 (Act 38 of 2002).
[19] *Supra* n3.
[20] The Patents Act 1970 (Act 39 of 1970), s3.
[21] *Supra* n10.

flexibilities of TRIPS Agreement to tune the scope of pharmaceutical patentability to the requirements of the call of public health.[22] It then *concludes* by performing a comparative and policy evaluation of Indian standards against those of the few foreign jurisdictions it has chosen to compare them with and the determination of whether the current Indian framework is effective in creating an optimal balance between the incentivized innovation of pharmaceuticals and the affordable access to medicines. Thus, paper aims to offer a more thorough description of pharmaceutical invention patentability in India as well as to contribute to more general debates on how the patent law may be structured as a tool of public good in a heavily unequal global health environment.

Conceptual Framework: Patentability and Pharmaceutical Innovation

Patentability of pharmaceutical inventions is a scientific field that needs to be analysed with fundamental ideas that define the patent law.[23] Standards of patents are not merely statements of technical qualifications. They are decisions regarding the type of knowledge and technical improvement that should be granted exclusive rights and how such rights are to be weighed with other social health and access issues.[24] In majority of modern systems, such as in India, an invention is patented; it is new, is an inventive act, and it can be applied industrially.[25] Novelty, which is a requirement of subject matter, means that subject matter is not of prior art;[26] inventive step, which is also a requirement, means that the subject matter is not obvious to a person of skill in art,[27] and industrial application which is a requirement, means that the subject matter can be made or used in industry.[28] Much of the concrete content of these criteria

[22] Tanya Aplin and Johnathon Liddicoat, 'Discussion Paper on the Interplay between patents and trade secrets in medical technologies' (WIPO Policy Document WIPO/IP/COVID/GE/2/22/PAPER, October 2023) 15.
[23] Ramesh Jois et al., 'Similar Biologics in India: A story of access or potential for compromise?' (2020) IJMR 43 <https://pmc.ncbi.nlm.nih.gov/articles/PMC8157901/> accessed 23rd November 2025.
[24] Sushmi Dey, 'Dept of pharma ignores health ministry concerns, removes price cap on patented, rare disease drugs.', The Times of India (5 January 2019) <https://timesofindia.indiatimes.com/india/controversial-move-by-pharma-department-to-push-up-drug-prices/articleshow/67390706.cms> accessed 24th November 2025.
[25] See generally, Korah Abraham, '26.4% of Indians still below poverty line: Study challenges govt's 5% claim'(5 Feb 2025) <https://www.thenewsminute.com/news/264-of-indians-still-below-poverty-line-study-challenges-govts-5-claim> accessed 24th November 2025; also see, Prashant T Reddy, 'The Data Exclusivity Debate In India: Time For A Rethink?' (2014) Indian Journal of Law and Technology 10.
[26] Anuritha & Jayshree Ds, 'The impact of TRIPS-Driven Data Exclusivity on Pharmaceutical Innovation in India: Balancing Patent and Public Health' (2024) 6 IJFMR 2.
[27] Ibid.
[28] Ibid.

is simply built up by statute, patent offices and courts and can be tuned either to be more stringent or less restrictive, particularly in such sensitive areas as pharmaceuticals.

There are two traditional differences, which are significant. *First* is the one between discovery and invention. Patent laws are not typically applicable to discovery of something that exists in nature, but they allow protection to human-created technical contributions relying on and transforming these discoveries. In pharmaceuticals dozens of border cases fall on this axis: the isolation of a natural substance, finding a novel therapeutic application, or creating a novel dosage form could be described as either innovative or simply as derivative depending on how the line between discovery-invention is drawn.[29] *Second* is process-product patent. The product patents provide exclusivity to the substance or composition as it is but process patents are granted to protect only a given mode of production.[30] This difference is a result in pharmaceutical industry: *a product-patent regime generally allows more extensive and intense control over active ingredient and formulations, whereas a process-only regime gives more space to generic manufacturers to develop other ways to run the processes and enter the market at an earlier stage.*

History of India being process patent reliant on drugs and its subsequent transition to product reliance on patents needs to be interpreted in this context.[31] The very process of pharmaceutical innovation has its peculiarities. Long, uncertain and costly R&D pipelines, massive regulatory examination and high attrition rates characterize drug development.[32] These aspects support the argument of high patent protection in this industry.

However, pharmaceuticals are not regular consumer products: they are typically medically essential, asymmetrically informational and are consumed under situations where patients possess very little bargaining power. Patents are thus abnormally direct in terms of morbidity, mortality and government spending. Besides, the tendency in investing in the pharmaceutical industry globally, demonstrates that there is systemic under-investment in the disease that

[29] Alexander C Egilman, Amy Kapczynski, Margaret E McCarthy, Anita T Luxkaranayagam, Christopher J Morten, Matthew Herder, Joshua D Wallach and Joseph S Ross, 'Transparency of Regulatory Data across the European Medicines Agency, Health Canada, and US Food and Drug Administration' (2021) 49(3) Journal of Law, Medicine & Ethics <https://www.cambridge.org/core/journals/journal-of-law-medicine-and-ethics/article/transparency-of-regulatory-data-across-the-european-medicines-agency-health-canada-and-us-food-and-drug-administration/FFD09EC615E261AEFE3E8AE88A268CBA> accessed 23 November 2025.
[30] See generally, David Green, James Pooley, Elizabeth Rowe and Ryan Calo, 'Understanding the Defend Trade Secrets Act (DTSA): The Federalization of Trade Secrecy' (2017) 50 Loyola of Los Angeles Law Review <file:///mnt/data/2999.pdf> accessed 23 November 2025.
[31] See generally, Law Commission of India, *Trade Secrets & Economic Espionage* (Law Com No 22, 2024).
[32] Ibid.

impacts poorer people, questioning the ability of patents to guide innovation towards the health and welfare priorities of the population.

In this context, evergreening has now become a key issue.[33] The term is used to refer to the methods through which subsequent patents are granted to make specific minor or incremental modifications to the existing drugs in order to extend the effective market exclusivity.[34] Some of opportunities of change are genuinely therapeutic, though others might be technically modest, and whose main goal is to delay generic entry.

Standards of patentability and in particular the application of novelty and inventive step to the claims of pharmaceutical products therefore act as filters of significance as to whether socially valuable incremental innovation is being promoted or strategic extension of monopoly. These inquiries are superimposed on the considerations of the public health and human rights.

In India, right to life has been interpreted in Articles 21[35] and 47 of the Constitution of India[36] as connoting duties of health and right and access to basic medical treatment, including medicines. Human rights law also on the international level considers access to necessary medicines a subset of right to highest attainable standard of health.[37] Access to medicines is not determined by patent law alone, or even predominantly, but it is a major point at which such constitutional and human right commitments are to be balanced against trade and innovation policy.

The following theoretical aspects allow structuring the explanations of legislative decisions made in India. It is against this context that the following section reviews the manner in which the TRIPS Agreement formulates global standards regarding the protection of pharmaceutical patents, and how its flexibility allows space to be created concerning approaches, such as that

[33] Pamela H Bucy, 'Private Justice' (1990) 76 Southern California Law Review 1; see, eg, *United States ex rel Bilotta v Novartis Pharmaceuticals Corp* 50 F Supp 3d 497 (SDNY 2014); *Vermont Agency of Natural Resources v United States ex rel Stevens* 529 US 765 (2000); *Novartis AG v Union of India* AIR 2013 SC 1311.
[34] Supriya Malviya, "Data Exclusivity And Right To Health: An Analytical Study" (2024), <https://www.cnlu.ac.in/wp-content/uploads/2025/07/Data-Exclusivity-And-Right-To-Health-An-Analytical-Study-by-Supriya-Malviya.pdf> accessed 23 November 2025; see generally, Prashant T Reddy, 'The Data Exclusivity Debate In India: Time For A Rethink?' (2014) Indian Journal of Law and Technology 10.
[35] The Constitution of India 1950, Art 21.
[36] The Constitution of India 1950, Art 47.
[37] JE Stiglitz, 'Economic Foundations of Intellectual Property Rights' available <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1362&context=dlj> accessed 27th December 2025.

proposed by India, which aims at balancing the notion of patentability against public health needs.

TRIPS And Evolution Of Global Pharmaceutical Patent Standards

The TRIPS Agreement revolutionized legal environment of patents in pharmaceutical industry across the globe. Before TRIPS, most developing countries (India included) were not patenting pharmaceutical products, or they limited protection to processes only. Global IP tools such as Paris Convention[38] were based on concepts such as *national treatment, priority*, but were also allowed much freedom in substantive scope of patentability, especially in sensitive industries, such as medicines.[39]

The TRIPS Agreement reduced this policy space upon imposition of binding minimum standards. Article 27(1) stipulates that any invention, regardless of the area of technology, is entitled to patent in case new, contains an inventive step, and can be applied to industry. Further, it must not be discriminated in terms of the area of technology, or whether the products are imported or domestically made.[40]

Article 33 sets a minimum period of twenty years of patent protection from the filing date. In case of pharmaceuticals, it meant that WTO members finally had to offer product patenting of the drugs, as opposed to process patenting, and had to do so on generally similar terms under different jurisdictions.[41] Meanwhile, TRIPS Agreement includes a range of flexibilities that have a special significance to pharmaceuticals. Articles 7 and 8 state purposes and principles. They are focused on social and economic well-being, rights and obligations balance, and entitlement of members to take measures to safeguard health of the population.[42]

Substantively, members retain their freedom to establish boundaries of major patentability requirements. For instance, they may omit some subject matter (e.g., diagnostic, therapeutic, and surgical procedures) or devise restrictions and exceptions under Article 30.[43] Article 31

[38] *Paris Convention for the Protection of Industrial Property*, opened for signature (Mar. 20, 1883), 21 UST 1583, 828 UNTS 305.
[39] Ibid.
[40] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 27(1).
[41] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 33.
[42] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 7, 8.
[43] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 30.

gives way to compulsory licenses and government use, which is conditional. Further, TRIPS Agreement does not oblige data exclusivity in regulation or upgrading of patents. However, these are TRIPS-plus issues which are common subjects in bilateral negotiations. These flexibilities were made clear and politically reinforced in Doha Declaration on TRIPS and Public Health.[44] It confirmed that TRIPS Agreement does not and must not bar members to act to safeguard the well-being of the populace and that it could. Moreover, it must be understood and applied in a manner that is conducive to the right of WTO members to safeguard the well-being of the populace. Specifically in that regard, to promote access to medications among the populace.[45] The declaration on the TRIPS Agreement and public health (Doha Declaration)[46] expressly acknowledged that right of members to compulsory licenses, grounds of grant of compulsory licenses, and regimes of exhaustion (and hence parallel importation).[47]

In case of developing countries and least developed countries,[48] it established longer periods of patent protection of pharmaceutical products and the export-related restrictions. The TRIPS Agreement was not implemented at once. The developed countries had to do so by 1996. The developing countries by 2000. While the transitioning of pharmaceutical products patents and least developed countries had specific and additional time.[49] These transitions were used to their fullest. India was the first to introduce a mailbox system and exclusive marketing rights and only by 2005 did it reintroduce product patents on pharmaceuticals and chemicals.[50] Through this, TRIPS Agreement limited and liberated. It forced India to shift to a process-only paradigm to a product-patent pharmaceutical model. It also provided interpretive and structural space to an access-sensitive, public health focused calibration of the patentability norms.

The following section follows the development of the domestic law of India as it addresses these worldwide developments which precondition the development of the approach peculiar to India in terms of patentability of pharmaceutical inventions.

[44] A Beattie and F Williams, 'Doha Trade Talks Collapse' (*Financial Times*, 29 July 2008).
[45] David B Lewis, *Whistleblowing and the Law: A Guide to the Public Interest Disclosure Act 1998* (2nd edn, 2013); see generally *Chesterton Global Ltd v Nurmohamed* [2017] EWCA Civ 979.
[46] Declaration on the TRIPS Agreement and public health, 2001, available at <https://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_trips_e.htm> accessed 20 January 2026.
[47] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 6.
[48] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 66.1
[49] *Supra* n41.
[50] Ibid.

Historical Evolution Of Pharmaceutical Patent Protection In India

The policy of pharmaceutical invention patentability in India can be best-viewed within historical context of the transition. From its former colonial, import-oriented regime into a TRIPS-compliant but access-sensitive one, the transition expands. Until 1970, the pharmaceutical patents in India were regulated mainly by Patents and Designs Act, 1911,[51] which permitted the provision of product patents to medicines on conditions largely similar to those set by the metropolis. This eased the control of foreign multinational companies, the dearth in domestic manufacturing and was greatly condemned to have led to the elevated drug prices and the inadequate supply of basic drugs. A clear split was achieved with the adoption of the Patents Act,[52] which came as a result of suggestions of Ayyangar Committee.[53]

In case of food, medicines and chemicals, the Patents Act[54] replaced product protection with process protection, having comparatively short periods of protection and a comparatively high compulsory licensing regime. Industrial and regulatory policy along with this framework allowed a thriving competitive domestic generic pharmaceutical industry to develop, learning to bypass processes, enhance technological capacity and lead to substantial drops in drug prices. the Patents Act [55] therefore became synonymous with a developmental, public health, use of patent law. This settlement was shaken by the advent of TRIPS.

As a founding member of the WTO, India had to transition towards product protection of pharmaceuticals and other areas of technology over given periods of transition.[56] The process of reform was conducted in three main phases. The amendment of 1999[57] provided a system of a mailbox to submit the application of a patent on the pharmaceutical products in the process of transition and provided a system of exclusive marketing rights under rare conditions.[58] The amendment of 2002[59] was made to provide a more wide consideration of the regulations with TRIPS, that was, extending the period of the patent registration to twenty years since the date

[51] The Patents and Designs Act 1911 (Act 2 of 1911).
[52] *Supra* n4.
[53] Shri Justice N Rajagopala Ayyangar, *Report on the Revision of the Patents Law*, <https://www.ipindia.gov.in/writereaddata/Portal/Images/pdf/1959-_Justice_N_R_Ayyangar_committee_report.pdf> accessed 25 December 2025.
[54] *Supra* n48.
[55] Ibid.
[56] See generally, Rajesh Sagar, 'Patent Policy in India under British Raj', *Patent cultures* (Cambridge University Press, 2020), <https://www.cambridge.org/core/books/abs/patent-cultures/patent-policy-in-india-under-the-british-raj/958C5634979C27B1230AFE6B69FA68D1> accessed 25 December 2025.
[57] *Supra* n14.
[58] *Ibid.*
[59] *Supra* n15.

of the filing of the application.[60] Consequential changes were most significant with Patents (Amendment) Act 2005[61] that finally reintroduced product patents on pharmaceuticals and chemicals.

Meanwhile, amendments of 2005[62] were well planned so as to ensure policy space was maintained. Section 3 was rewritten and amended, with Section 3(d) being the focal point of containing patents on new forms of known substances that do not prove to be more effective, specifically evergreening.[63] The pre-grant and post-grant opposition procedures were maintained and enhanced as quality-control measures. Mandatory licensing system was preserved and subsequently operationalized in pharmaceutical industry. Later, a Bolar-type exception was added to allow quicker generic access to the market once the patent had expired. It is this historical development that provides the background context on which the present Indian standards concerning patentability of pharmaceutical inventions should be interpreted. The following section looks deeper into those standards of the day having the structure of patentability of drugs in the law and in practice in more detail.

Current Indian Legal Jurisprudence

The modern Indian patentability system of pharmaceutical inventions is designed as a system that combines general standards consistent with the TRIPS and the limitations of the industry in the Patents Act.[64] At the definitional level, Section 2(1)(j)[65] and 2(1)(ja)[66] demand that an invention must be a new product or process which entails an inventive step and industrial application, and definition of that inventive step must be in form of a technical advance or economic benefit not to be found in a person having knowledge of the art.

In pharmaceuticals, but these generic norms have been put into practice in a dense mesh of exceptions in Section 3 and a jurisprudence that has actively attempted to police evergreening and maintain access to medicines.[67] Section 3(d) has taken over as key doctrinal tool to

[60] *Supra* n15.
[61] *Supra* n16.
[62] Ibid.
[63] *Supra* n18.
[64] *Supra* n4.
[65] The Patents Act 1970 (Act 39 of 1970), s2(1)(j).
[66] The Patents Act 1970 (Act 39 of 1970), s2(1)(ja).
[67] *Supra* n53.

determine patentability of drugs.[68] It also does not patent any simple discovery of a new form of a known substance, which does not lead to an increase in efficacy of known efficacy, and considers various derivatives; in salts, esters, polymorphs and combinations, to be same substance, unless they significantly differ in properties with respect to efficacy.

The ruling of Supreme Court in *Novartis AG v. Union of India*,[69] regarding beta-crystalline form of imatinib mesylate, is a source of authority. Court ruled that it should reject a patent application filed by Novartis since efficacy in the context of medicines should be construed as therapeutic efficacy rather than any advantageous physio-chemical property, and that improved bioavailability should be considered only to degree that it can be demonstrated to result in real therapeutic benefit.[70] Novartis thereby narrowed down a two-step filter to new forms of known substances: this must not only meet general novelty and inventive steps requirements, but it must also show superior therapeutic efficacy to evade bar of Section 3(d).

Section 3(d) works in collaboration with other clauses of Section 3 to make pharmaceutical patentability narrower.[71] Section 3(e) authorises examination of fixed-dose mixes and preparations as a simple admixture when no synergistic or surprise technical effect is demonstrated;[72] Section 3(i) is the exception to the methods of treatment, which keeps treatment regimens and dosage regimens out of the patent system;[73] and Section 3(j)[74] and 3(p)[75] have been applied where pharmaceutical claims are mixed with biological material or traditional medicinal knowledge. Indian Patent Office has been allowed by these provisions to reject claims based on known traditional remedies as well as plain combinations which are little beyond an aggregation of known properties.[76]

New novelty and innovative step still have a role in this exclusionary framework, and the case law is characterized by a rather restrictive attitude towards the pharmaceutical sector. In *F. Hoffmann-La Roche Ltd v. Cipla Ltd*,[77] a case of erlotinib, a lung cancer drug, Delhi High Court

[68] The Patents Act 1970 (Act 39 of 1970), s3(d).
[69] *Novartis AG v Union of India* AIR 2013 SC 1311
[70] Ibid; also, see generally, Sana Yadav, Souvagyo Banerjee, "The Novartis Legacy – From Therapeutic Efficacy to Procedural Evasion" (16 Decemebr 2025, *RSRR*), <https://www.rsrr.in/post/the-novartis-legacy-from-therapeutic-efficacy-to-procedural-evasion> accessed 20 January 2026.
[71] *Supra* n57.
[72] The Patents Act 1970 (Act 39 of 1970), s3(e).
[73] The Patents Act 1970 (Act 39 of 1970), s3(i).
[74] The Patents Act 1970 (Act 39 of 1970), s3(j).
[75] The Patents Act 1970 (Act 39 of 1970), s3(p).
[76] Patent highlights, WIPO, <https://www.wipo.int/web-publications/world-intellectual-property-indicators-2024-highlights/en/patents-highlights.html> accessed 24 December 2025.
[77] *F Hoffmann-La Roche Ltd v Cipla* (2008) 37 PTC 71 (Del).

looked at both the validity and infringement. Although factual basis of the patent was upheld, Court stressed that obviousness had to be determined in the perspective of a person of skill bearing in mind state of prior art, reasonable expectations of success and nature of technical progress.[78] In a broader sense, practice of Patent Office and decisions in India are likely to accept routine optimization in medicinal chemistry and formulation (including predictable changes or parameter variations) as self-evident unless the patentee can prove an unexpected technical effect or a solution to a known technical bias. This, together with Section 3(d), increases hurdles in case of so-called "me-too" claims on small changes or alterations to dosage that are not associated with a substantial therapeutic breakthrough.[79]

India, procedurally, has placed much reliance on pre-grant and post-grant opposition by use in Section 25[80] as a quality control tool in pharmaceutical patenting. Pre-grant opposition is open to any person, and this has made it possible to have civil society organizations, patient groups and generic manufacturers challenging applications they view as evergreening or weak. Various high-profile pharmaceutical applications have been rejected or reduced after such objections, commonly with Section 3(d) and lack of inventive step in the limelight.[81]

These cases have transformed the patent examination practice into an adversarial and participative process and have compelled Patent Office to provide the more detailed argumentation of efficacy, obviousness and application of Theorem 3 in cases of pharma.[82] Though compulsory licensing does not establish such thing as patentability, it is a part of larger pharmaceutical exclusivity architecture and it has an impact on the perception of system.

Order in *Nexavar* case, *Bayer Corporation v. Controller*.[83] *Natco Pharma Ltd*., granted compulsory licence of sorafenib tosylate on grounds that reasonable requirements of publix were not fulfilled, drug not reasonably affordable and invention was not due to be worked in India.[84] This ruling marked a milestone in that even legal pharmaceutical patenting can be put under effective public-interest limitations of its effective use. It enhances normative case

[78] Ibid.
[79] *Supra* n60.
[80] The Patents Act 1970 (Act 39 of 1970), s25.
[81] *Supra* n68.
[82] Ibid.
[83] *Bayer Corporation v Union of India* [2014] AIR Bom 178 (Bom HC).
[84] Ibid.

indirectly in favour of strict patentability sorting at the grant stage, in that the legal system is now evidently ready to step in where exclusivity is seriously damaging access.

Patent system also relates with drug regulation and TRIPS flexibilities in manners that further define effective patentability. Safety and efficacy regulatory approvals, issued by Drugs Controller General of India, do not depend on the presence of the patent and Section 107A[85] (Bolar-type exception) allows the use of patented inventions to generate data needed in regulatory submissions.

Such a structure enables generic manufacturers to be ready to enter the market when patents remain valid so as to restrict the ability to extend de facto exclusivity by regulatory initiatives. India has also opposed the adoption of regulatory data exclusivity and term extension of patents into domestic law, even when urged by other nations, which supports the position of the criterion of patentability and domestic protection as key legal factors in determining the extent and duration of protection of pharmaceutical inventions.

Put collectively, these statutory provisions and case law represent a consistent, although challenged, model: India provides TRIPS-compliant product patenting on pharmaceuticals but moderates it with a combination of substantive exclusion (in particular, Section 3(d)) and relatively stringent inventive step requirements, participatory opposition and public-interest mechanisms (in the form of compulsory licensing and Bolar exception). It is to this doctrinal and institutional set up that the Indian approach will have to be placed in comparative context and its failure or success in balancing innovation with getting medicines has to be evaluated critically.

Placing India Amidst TRIPS Flexibilities

The strategy that India takes on patentability of pharmaceutical inventions can be fully comprehended when it is found in the flexibilities that TRIPS has left to its member states. On one hand, TRIPS required recreation of product patents in pharmaceuticals, but on other hand, it did not put one model of high protection on ice. Rather, it formulated minimum standards and allowed latitude or states in the process of tuning patentability and associated devices to

[85] The Patents Act 1970 (Act 39 of 1970), s107A.

public health and development issues. India has made a strategic placement of itself at the end of this spectrum that is access-sensitive and maximizes flexibility. The doctrines of TRIPS require its members to patent all areas of technology, disclosures that are new, including an inventive step, and can be utilized in industry, however, it does not dictate how well-defined and applied are the requirements. India has taken advantage of this area to build comparatively challenging gates within pharmaceutical industry. This can be illustrated by Section 3(d), which, in combination with Sections 2(1)(j)[86] and 2(1)(ja),[87] entails a greater standard of incremental pharmaceutical inventions: in that way, Indian law makes use of a standard absent in TRIPS, which does not prohibit the calibration of Section 3(d).

Direct application of Article 30-type flexibility to secure timely generic entry is the use of patented invention under Section 107A in order to get regulatory approvals.[88] The strong interpretation of Article 31: India has read Schedule 84 and Schedule 92 in the case of *Nexavar* (sorafenib): the interpretations of reasonable requirements of public and reasonably affordable price are read as substantive limitations on pharmaceutical exclusivity and the working requirement has been taken seriously by India, indicating that it requires more than just importation at high prices in case of life-saving medicines.[89] India has also continued to oppose TRIPS-plus requirements that are usually incorporated in bilateral and regional trade agreements. India has avoided the right to enact data exclusivity, and preserved centrality of core patentability standards and internal protections over add-on exclusivities by refusing to enact a law to grant data exclusivity, and by refusing to permit twenty-year baseline plus routine extensions of central patentability standards.

This position is consistent with the spirit of Doha Declaration[90] stating that the members have a right to interpret and apply TRIPS Agreement in such a fashion that is accommodating to the public health and access to medicines. India has used procurement flexibilities institutionally to strengthen the process of patent-grant into a democracy and a discipline. TRIPS Agreement does not entail pre-grant opposition though India permits any person to oppose an application prior to grant and offers a second opportunity of post-grant opposition. These commonly employed mechanisms in the pharmaceutical industry by patient groups and generic producers,

[86] *Supra* n54.
[87] *Supra* n55.
[88] *Supra* n74.
[89] The Trade-Related Aspects of Intellectual Property Rights Agreement Art 31; also see, The Trade-Related Aspects of Intellectual Property Rights Agreement Art 31bis.
[90] *Supra* n46.

have grown to be an enforceable tool of applying TRIPS-compatible but stricter domestic requirements, especially to Section 3(d) and inventive step.

In a sense, they allow the social actors in the process of the interpretation of TRIPS flexibilities on the ground, as opposed to entrusting the task to the patent office or the courts. Installed between the flexibilities of the TRIPS Agreement, the pharmaceutical patent regime of India can be best regarded as a highly focused, defensible experiment: the regime admits major commitments of product patents and twenty-year terms, but constrains listing and patentable pharmaceutical inventions, and dilutes exclusivity by exceptions, compulsory licensing, and participatory opposition procedures. This has placed India at a strategic point to become a major provider of cheap medicines to the developing world but at the same time participate in the global networks of R&D. At the same time, it puts India at the receiving end of repetitive diplomatic and commercial pressure by the trading partners and the originator industries that want more and deeper protection.

The next section leaves this international-law perspective and goes to a more broad-based comparative evaluation; it seeks how the flexibility-maximising model of India compares to those of other jurisdictions on pharmaceutical patentability and what it suggests should be reformed in future.

Comparative Perspectives

A comparative study of the pharmaceutical patentability regimes also indicates that the differences among jurisdictions are more to do with the manner in which countries apply the novelty, inventive step, and subject-matter exclusions, and how coherent the patent law is to the pharmaceutical regulation and to the public health policy. India (with its model based on statutory exclusions and increased attention to incremental innovation) takes a unique place when compared to the large countries of the developed and developing worlds.

A) In **United States**, pharmaceutical patentability is defined by the loose interpretation of the subject matter that can be patented and a liberal attitude towards follow-on inventions. New forms, new formulations, new dose regimens and new treatment modalities are regularly patentable, so long as they meet novelty and non-obviousness

standards under 35 USC S. 102 and 103.[91] In the USA, there is no statutory equivalent to Section 3(d) of India; evergreening is dealt with by doctrines of litigative intensity, including those of obviousness, written description, and enablement. The Hatch-Waxman system is structurally supportive of pitching the lifecycle patenting extensively by linking patent performance with regulatory exclusivities and term restoration. This has seen pharmaceutical exclusivity in the US frequently becoming cumulative and layer cake-like, with access issues mediated not by *ex ante* patentability filters, but by the competition law and post-grant challenges.

B) The **European Union** via the European Patent Office is more organized yet innovation driven. The idea of patentability depends on the novelty and inventive step measured through the problem-solution means that brings analytical discipline but lacks industry-specific exclusion in cases of a pharmaceutical. Claims of second medical use, dosage regimen, and some formulations are eligible to patent protection of incremental therapeutic inventions.[92] Supplementary Protection Certificates also extend effective market exclusivity further to counter regulatory delay. Whereas in Europe the jurisprudence has added rigidity to certain aspects, the regime is generally open to incremental pharmaceutical invention and employs the inventive step analysis over statutory efficacy criteria to put a limit on the extent of patents.

C) **China** is an evolving and hybrid model. Once being accused of formalism in patent examination, China has over the last few years consolidated pharmaceutical patent protection as well as enforcement as one of its development strategies, which is innovation oriented. There are product patents such as formulation and use patents and there are new reforms such as extension of product patents term and patent linkage

[91] Defend Trade Secrets Act of 2016; US House of Representatives, Committee on the Judiciary, *Report on the Defend Trade Secrets Act of 2016* HR Rep No 114-529 (2016); see generally Sharon K Sandeen and Elizabeth A Rowe, *Trade Secret Law in a Nutshell* (2nd edn, West Academic 2018) chs 7-9, and David S Almeling, *'Seven Reasons Why Trade Secrets are Increasingly Important'* (2012) 27 Berkeley Technology Law Journal 1091; False Claims Act, 31 USC S3730(b)-(d); Pamela H Bucy, 'Private Justice' (1990) 76 Southern California Law Review 1; see, eg, *United States ex rel Bilotta v Novartis Pharmaceuticals Corp* 50 F Supp 3d 497 (SDNY 2014); *Vermont Agency of Natural Resources v United States ex rel Stevens* 529 US 765 (2000).

[92] Directive (EU) 2019/1937 of the European Parliament and of the Council of 23 October 2019 on the protection of persons who report breaches of Union law, arts 7-10, 19-21; Council of Europe, Recommendation CM/Rec (2014) 7 on the Protection of Whistleblowers (30 April 2014); European Union Agency for Fundamental Rights, *Protection of Whistleblowers: Existing Standards and Practices in EU Countries* (FRA 2016); see generally, Giulia Bianchi, 'The New EU Whistleblowing Directive and Its Three-Tier Reporting Channels' (2021) 42 Statute Law Review 80; David Lewis and Wim Vandekerckhove, 'Whistleblowing and the EU Directive: A Practical and Legal Analysis' (2020) 47 European Law Review 675; also see, European Commission; see, *Guja v Moldova* (No 1) App no 14277/04 (ECtHR, 12 February 2008), *Heinisch v Germany* App no 28274/08 (ECtHR, 21 July 2011), *Matúz v Hungary* App no 73571/10 (ECtHR, 21 October 2014), and *Bucur and Toma v Romania App* no 40238/02 (ECtHR, 8 January 2013).

system.[93] Meanwhile, the Chinese guidelines lay greater stress on substantive analysis of inventive step, and more and more on the considerations of public health in the compulsory licensing law, albeit, rarely invoked. In that way, China is closer to US- and EU-type protection of pharmaceuticals, but theoretically, policy space can be used to launch access-oriented intervention.

D) In the developing and middle-income countries, the approaches are very different, as they are based on the different capacities of industries and health priorities. The patents on pharmaceutical products are granted in **Brazil**, though historically there has been a translation of state health regulation in Brazil by such mechanisms as the involvement of health-regulators in patent examination and a system of compulsory licensing.[94] There has been increasing Brazilian scepticism about evergreening, but no statutory counterpart to Section 3(d) therefore, control is by administrative and judicial interpretation. **Thailand** has been more dependent on mandatory licensing and government use of essential medicines with the approach to patentability standards being formally TRIPS-compliant with the exclusivity offset with formidable post grant interventions.[95] Having been subject to long-standing reputation as having a poor substantive examination and many low-quality pharmaceutical patents, **South Africa** is currently undergoing policy reform to close the patentability standards, enhance examination, and more effectively exploit TRIPS flexibilities, but legislative implementation is not completely uniform.[96]

E) The **UAE** is another opposite model of the developing economies. Being a trade- and investment-oriented jurisdiction, UAE has made a comparatively protection-friendly move towards patent regime, which is well voiced by international standards, and welcoming to pharmaceutical patent, even including incremental innovations. The issues of access are met less by restrictive thresholds of patentability and more by the

[93] SAMR Order No 20, 2020; SAMR Order No 26, 2021; National People's Congress Standing Committee, *Drug Administration Law of the People's Republic of China* (adopted 26 August 2019, effective 1 December 2019); see generally Angela Huyue Zhang, Chinese Antitrust Exceptionalism: How the Rise of China Challenges Global Regulation (OUP 2021).

[94] Decreto No 8.420, de 18 de Março de 2015 (regulating Law 12.846/2013); Jorge Munhós de Souza and Liziane Paixão Silva Oliveira, 'The Brazilian Clean Company Act: An Analysis of Its Enforcement and the Role of Compliance Programs' (2017) 12 Brazilian Journal of Public Policy 213; also, see, OECD, Phase 2 Report on Implementing the OECD Anti-Bribery Convention in Brazil (OECD 2017).

[95] nTRIPS.

[96] World Intellectual Property Organization, 'Case study: IP Management and the Commercialization of Publicly Funded Research Outcomes in South Africa' <file:///mnt/data/WHOPIR_GPO_12-16August2024.pdf> accessed 23 December 2025; Lorraine Danks et al, 'The Economic Impact of Reliance on an African Medicines Regulatory Authority' (2 March 2025) <https://www.sahpra.org.za/wp-content/uploads/2025/03/The-Economic-Impact-of-Reliance-on-an-African-Medicines-Regulatory-Feb-2025.pdf> accessed 23 December 2025.

pricing regulation and procurement policy, which reflects the need to establish a distinction between the patent law and the goals of preserving the human health. In these jurisdictions, the most fundamental point of analysis in the system is the source of access protection that the system found.

Protection is concentrated by the US, EU, and China and jurisdictions like the UAE at the patentability phase and right excesses are corrected mostly by litigation, regulatory exclusivities, competition law or prices. In Brazil, Thailand and South Africa, compulsory licensing and government use is more beneficial in rebalancing access following receipt of patent. India is quaint in locating a large portion of this balancing act ex ante, on the plane of patentability itself, by statutory exclusions, by the heightened inventive-step inquiry in the pharmaceutical industry, and by systems of participation opposition.

This comparison image highlights the fact that TRIPS compliance is flexible to adopt various pharmaceutical patentability models. The formal structure of India is not an outlier, but rather the structure of the country is unique in its legislative mistrust of gradual pharmaceutical monopolies and its readiness to directly convert the social health interests into the doctrine of patentability. This ex-ante, access-based design is, however, a key question to future reforms, one directing them right to the ultimate policy critique and strategy, one that directly determines the ultimate approach to the eventual policy critique and way forward.

Critiques, Debates, And Carving a Way Out

The pharmaceutical patent regime in India has received decades-long scholarly, judicial and policy debate not due to its nominal non-conformity with TRIPS Agreement, but due to its normative decisions regarding the design of innovation incentives in a sector that is extremely closely linked to public health. The criticisms that have surfaced can only be viewed as challenges on where patent system must draw its boundaries, the manner in which innovation should be compensated and what interests are best served by the patent law. One of the core criticisms is the focus of Section 3(d) and the fact that it is being accused of deterring gradual pharmaceutical invention.

According to critics, current development of drugs has been hardly marked by groundbreaking inventions;[97] thus, it tends to follow the pattern of gradual improvements in formulation, routes of delivery, stability, safety, and adherence to treatment.[98] Section 3(d) is alleged to underestimate such refinements, and may discourage investment in adaptive or follow-on research, especially by original firms, because it requires patentability to be contingent on improved therapeutic efficacy, and discounts improvements that do not obviously lead to clinical improvements.[99] Such criticism is supported by the issue of apparent evidence heavy loads: to prove increased therapeutic effectiveness at the patent application phase would involve costly, time-consuming, or inaccessible clinical evidence.

Counter-arguments, however, question the assumption according to which all incremental innovation deserves protection of the patent. In that sense, Section 3(d) is an indication of a reset button in the reward threshold as it seeks to draw a distinction between innovations that significantly enhance therapeutic results and those that mainly prolong market exclusivity.[100] The existence of dense patent thickets surrounding blockbuster drugs in jurisdictions that lack such filters is empirically testified to support the claim that weak follow-on patents have the capability to delay generic products entry without any social benefit. According to this perspective, it is not innovation that is suppressed by the higher bar in India, but it is channelled towards a clinically significant development instead of strategic changes. The other point of debate axis is the legal uncertainty and administrative discretion. The language in Section 3(d) which is open-textured especially the definition of efficacy and the standard needed to prove enhancement have created inconsistent results at the Patent Office and in the appellate courts.

Although Novartis specified that therapeutic efficacy is the appropriate standard of medicines, it did not answer questions regarding the amount and nature of evidence that should be produced and how efficacy should be determined when using non-traditional medicines like biologics, vaccines, and gene-based medicines. According to critics, this uncertainty increases the cost of transactions, discourages investment and may lead to unequal enforcement of the

[97] Satwant Reddy, 'Report on Steps to be taken by GOI in the context of Data Protection Provisions of Art.39.3 of TRIPS Agreement' (2007) <https://chemicals.nic.in.org/sites/default/98files/DDBooklet.pdf> accessed 23 November 2025.
[98] Ibid.
[99] Prashant T Reddy, 'The Data Exclusivity Debate In India: Time For A Rethink?' (2014) Indian Journal of Law and Technology 10.
[100] Ramesh Jois et al., 'Similar Biologics in India: A story of access or potential for compromise?' (2020) IJMR 43 <https://pmc.ncbi.nlm.nih.gov/articles/PMC8157901/> accessed 23rd November 2025.

standards of patentability.[101] On systemic level, dependence of India on pre-grant opposition has received mixed responses as well. Its proponents see it as a democratising process that enhances the quality of patents and incorporates the issue of public health into examination.

The tension here is not so much procedural as it is more about whether patent examination is more technocratic process with no social contestation or this is a place where other interests of the larger population can be fairly raised.[102] These criticisms are also overlapping with more general theorisations about innovation ecosystems and industrial policy.[103] The success of India as a worldwide provider of generics has been established on a legal framework that restricts the secondary monopolies and supports the early generic entry.[104] Nevertheless, plans to shift up the pharmaceutical value chain, specifically into biologic and biosimilars and new drug discovery, raise concerns on whether the current patentability regime is robust enough to encourage high-risk, capital-intensive R&D. The issue is not that India does not have patents, but that its existing structure may be more appropriate to small-molecule generics than to new modalities based on a long development cycle and complicated regulatory routes. Drilling a path thus needs honing not backtracking.

The possible way forward, which does not undermine the essence of Section 3(d), includes creation of more specific, technology-sensitive provisions regarding the use of Section 3(d), especially in context of biologics and advanced therapeutics. Strict standards could be maintained by increasing the rigor of examiner training and making more rational and open decisions. The other opportunity is to increase incentives to complementary innovation outside the patent system, including government subsidies, prize systems, advance market commitments, and joint R&D platforms so as to encourage socially beneficial drug innovation that is not appropriately compensated through patent protection.

Normatively, sustained opposition of India to TRIPS-plus oblations is defensible at international level but must be accompanied by active participation in formulating worldwide discussions on the issues of access, innovation and transfers of technologies. At national level, reevaluating the balance between innovation and patentability does not require the discarding of Section 3(d); the more context-sensitive and evidence-based use of the provision is required, one that draws the line between the true advancement of therapeutic research and the cynical

[101] Ibid.
[102] Ibid.
[103] *Supra* n85.
[104] Ibid.

rent-seeking games. Finally, Indian example demonstrates that the pharmaceutical patent law is not just a technical area but a constitutional and developmental choice. The dilemma in future is to maintain a system that is loyal to cause of public health but one that adapts to needs of next generation of pharmaceutical innovation- and not to compromise the regulatory independence that has characterized how India has gone about patentability.

Concluding Contemplations

Indian regime of patentability of pharmaceutical inventions constitutes one of the most normatively proclaimed and deliberate experiments of post-TRIPS patent regimes. Instead of making pharmaceutical patenting a technocratic and apparently neutral activity, Indian legislation presents it as part of a wider constitutional and developmental pledge to public health, access to drugs and technological autonomy. The resulting governance is neither anti-patent nor exceptionalist, but rather a response to the structural facts of drug markets, in which exclusivity makes a direct impact on life-and-death outcomes.

This paper has revealed that the uniqueness of India is not in denying the international patent standards, but in its implementation and interpretation. India has attempted to bring about substantive scrutiny, more so by Section 3(d) strict treatment of inventive step, participatory opposition, and principled use of TRIPS flexibilities, in order to secure the fact that pharmaceutical patents are conferred on true therapeutic innovation, rather than creative extensions of monopoly. This orientation has been strengthened through judicial interventions, most prominently in Novartis, which in turn puts the very notion of patentability as a valid arena of adjudicative intervention to balance between the incentives of innovation and the interest of the people.

Simultaneously, tension is not absent in the Indian model. The demand of doctrinal refinement and institutional fortification can be justified by legal uncertainty, administrative inconsistency and worries about the incentivisation of next-generation pharmaceutical research. The experience of other countries shows that pharmaceutical patentability may not have a single international prototype; instead, the types of different jurisdictions distribute innovation protection and access protection under patent law, regulation and competition policy. The decision of India to place much of this exercise of balancing ex ante, at the threshold of

patentability, is a deliberate and justifiable one--but it requires transparency, consistency and constant readjustment.

In the future, the sustainability of the course taken by India will not be based on the rejection of its own principles and rather on extending its sophistication. With the transition process towards pharmaceutical innovation in biologics, personalised medicine, and more complex treatment methods, standards of patentability must alter their traditional ways of doing so without being disloyal to the societal health needs but take seriously the new technological realities. What is needed is effective guidelines, increased examination power and non-patent incentives at innovation, as opposed to weakening hard-earned protection.

To sum up, the pharmaceutical patent system in India demonstrates that patent legislation can be used as an instrument of ethical regulation, but not as a facilitator of the market. The case of its experience refutes the belief that more powerful patents always lead to greater innovation results and proves that accessibility, equity, and innovation can go hand in hand. It is not opposition to innovation or access, but to devise a system of patents which acknowledges the interaction between the two in ways which are enduring, and which is answerable to the social purpose to which it is ultimately dedicated.

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Patent Trolling in India: A Threat to Innovation?

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Abstract

As Intellectual Property (IP) frameworks spread worldwide, the growing concern over patent trolling is becoming more prominent. Although India has not experienced patent trolling yet, its presence in other countries like the US and China, along with fintech, AI, and pharmaceuticals, and NPEs (Non-Practicing Entities) and patent monetization, increases possible risks in India. This study examines whether the pre-existing framework of the Patents Act, 1970, is resilient enough to face as well as prevent the risks in the future and assesses the factors that may allow patent trolling in India. The paper also examines material disputes dealt with by the Indian courts and suggests specific changes. The study makes the case that India can maintain an innovation-driven patent system while preventing opportunistic enforcement from spreading by using this combined strategy.

Keywords: Patent trolling, artificial intelligence (AI), intellectual property (IP), fintech, judicial oversight.

Introduction

Innovation often starts with small ideas that later become major technological breakthroughs. From the early invention of simple lenses to today's Global Positioning System (GPS), precision medicine, and digital communication technologies, progress depends on sharing knowledge. Patent trolls are also called non-practicing entities (NPEs), patent assertion entities,

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or patent sharks. They aim to take advantage by acquiring patents, not to innovate or commercialize inventions, but to create revenue through litigation or threats of licensing[2].

Generally, they target obvious patents, intimidating companies to settle instead of defending against expensive legal claims. Small firms and Start-ups are often at risk of weak claims, which can be very costly. Though rare exceptions do exist in which trolls help individual inventors against large corporations, the overall effect is largely negative since it diverts resources from research and creates a chilling effect on innovation.

Over the past twenty years, research on patent trolling has expanded quickly, particularly in areas where litigation-based monetisation has become common. The United States, where the phenomenon initially gained widespread attention, is where much of the foundational research originates.

Early research by academics like James Bessen, Michael Meurer, and Mark Lemley[3] demonstrated how NPEs used ambiguous and excessively broad software patents to demand settlements, impose high costs, and discourage investment in R&D. These studies served as the foundation for larger discussions regarding litigation reform and patent examination standards. It also demonstrated a direct connection between low-quality patents and the growth of opportunistic enforcement[4].

Much research has also been conducted on the American policy response. The America Invents Act[5], stricter pleading requirements, fee-shifting clauses, and state-level demand-letter laws have all been examined by commentators as ways to curb abusive behaviour.

Another important field of study has been case law. Enforcement strategies of NPEs have been influenced by decisions such as eBay v. MercExchange[6] and NTP v. RIM[7], which have been widely discussed for restricting automatic injunctions and defining extraterritorial reach. This

[2] Introduction to Patent Trolling, *available at*: https://www.investopedia.com/terms/p/patent-troll.asp (last visited on November 15, 2025).
[3] *How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton University Press 2008); Mark A. Lemley, 'Are Universities Patent Trolls?' (2007) 18(3) *Fordham Intellectual Property, Media & Entertainment Law Journal* 611.
[4] It's Time to Stand Up to Patent Trolls", *WIPO Magazine*, *available at:* https://www.wipo.int/en/web/wipo-magazine/articles/its-time-to-stand-up-to-patent-trolls-39077 (last visited on November 15, 2025).
[5] Leahy-Smith America Invents Act 2011, Pub L No 112-29, 125 Stat 284.
[6] *eBay Inc v MercExchange*, LLC, 547 US 388 (2006).
[7] *NTP, Inc v Research In Motion Ltd,* 418 F 3d 1282 (Fed Cir 2005).

collection of research demonstrates that the early growth of patent trolling in the United States was fuelled by a combination of weak patents, high litigation costs, and extensive remedies.

Research on China presents a divergent perspective. Research analysing thousands of infringement cases indicates that while NPE is substantial, the majority of Chinese NPEs are individual inventors or small enterprises, rather than structured PAEs (Patent Assertion Entities). Researchers note that troll-like behaviour, such as filing lawsuits repeatedly and not enforcing them right away, has been seen early on, especially in fast-moving fields like electronics and telecom. However, China has a pro-patentee environment, which means that the government and the system favour patents. In cases of patent infringements, the courts award serious damages. Technologies essential to the standard are growing rapidly. Therefore, all these factors could make companies more likely to assert their patents aggressively in the future.

The academic research on India is still limited to date, but it is expanding continuously when compared to the United States and China. The structural safeguards of the Patents Act, such as compulsory licensing, the working requirement of Section 146, and limitations on software patents of Section 3(k), are the object of early research. These characteristics, according to academics, have shielded India from widespread troll activity. However, more recent writing highlights new vulnerabilities brought about by India's growing patent portfolio, the emergence of fintech and high-tech industries, and the government's drive for patent monetization. Case studies like *Spice Digital and Samsung v. Somsasundaram Ramkumar*[8] have been used to show how Indian courts examine dubious patents and stop their abuse.

A growing body of research also looks at international strategies like the Internet of Things (IoT) network, FRAND commitments, and defensive patent pools that are intended to combat trolls. Researchers stress that India may be drawn more and more into assertion trends that come from outside its borders as patent markets become more globalized.

Three overarching themes are established by the current body of research. First, settings with lax examination requirements, a large number of software patents, and expensive litigation are conducive to patent trolling. Second, when patent markets grow and enforcement becomes financially appealg, even robust legal protections may be undermined. Third, India's safeguards have been effective thus far, but the nation's evolving innovation landscape calls for more vigilant observation and proactive change. This paper expands on the areas of inquiry by

[8]*Spice Digital Ltd and Samsung Electronics Co., Ltd. v. Somasundaram Ramkumar,* 2011 SCC OnLine Mad 2733.

examining early warning indications within India's patent ecosystem and analysing whether current frameworks will be sufficient in the forthcoming ten years.

There are far-reaching consequences of patent trolling for the economy and policy, including innovation, market dynamics, and legal statutes. In the United States, the patent troll companies send wide-ranging demand letters to businesses, asserting claims of infringement of patents even in cases of negligible to zero grounds. These letters often coerce companies to settle quickly. Here, the major complication is that even though the claims are baseless, the cost of litigation remains higher than the cost of settlement. This practice diverts significant financial and managerial resources from research and product development, affecting a fundamental part of innovation.

When loud public protests, media interaction happened, and industries took a stand for change, then the lawmakers and courts finally stepped in and took action. The development of reforms, including the America Invents Act, along with state-level laws regulating abusive and coercive demand letters, was introduced to increase the level of transparency, discourage trivial claims, and protect businesses from unsolicited litigation costs.

By contrast, China offers a different but informative case. One study of more than 3,400 patent infringement cases found evidence that some 44 percent involved NPEs. The vast majority of such NPEs, however, were individual inventors or otherwise small entities rather than organised patent assertion companies, highlighting a unique ecosystem of innovation-driven enforcement. The study identified early signs of troll-like behaviour, such as serial litigation against smaller firms and delayed enforcement tactics, showing that even in jurisdictions with strong pro-patentee policies, exploitative practices can arise. These patterns suggest that patent trolling is not confined to any single legal environment but can develop incrementally in virtually any system where patents are valuable, market rivalries are keen, and enforcement mechanisms allow for opportunistic actors[9].

India has not faced big problems related to patent trolling because its laws have safeguards that prevent such allegations. While the Patents Act of 1970 does not refer to patent trolls, it provides obligations that make trolling difficult in practice. Under Section 146(1), for instance, owners have to show their inventions are actually worked in India. If a patent remains

[9] R. Palangkaraya and E. Webster, "Patent Assertion Entities in the Pharmaceutical Sector: A Threat to Innovation?", (2021) 59 *Computer Law & Security Review* 105491, *available at:* https://www.sciencedirect.com/science/article/abs/pii/S0267364920301229 (last visited on November 16, 2025).

unutilized for three years, it may be opened for compulsory licensing, which removes the incentive to stockpile patents for purely enforcement purposes.

Patentees also must file an annual statement explaining how a patent is utilised under Section 146 (2) of the Patents Act, 1970[10]. If patentees fail to do so, they may be fined, and in some cases, may face criminal penalties, which prevents entities that hoard inactive patents just to use them later in lawsuits.

Apart from these conditions, India's patent system is built in a way that prevents misuse. In general, software inventions usually cannot be patented in India. So, the overly broad patent claims that are often exploited by patent trolls in other countries are unlikely to succeed here. The post-grant opposition system provided for under Section 25(2) allows competitors and the public to oppose weak or overbroad patents within one year of grant. Compulsory licensing provided under Section 92 ensures that patents are put to a social use in such areas as pharmaceuticals, where non-working negatively affects access and affordability. Courts can also be assisted under Section 115 in appointing scientific advisors to assist in comprehending technical issues, thereby aiding in avoiding misuse of overbroad or ambiguous claims in litigation[11].

The practical application of such safeguards is demonstrated by cases such as *Spice Digital and Samsung v. Somasundaram Ramkumar*[12]. They show that India's patent system successfully filters out subpar claims and provides a strong defence against the risk of harsh enforcement, guaranteeing that the system rewards real innovators rather than speculative assertion entities.

Despite these protections, India's quickly growing patent ecosystem may create vulnerabilities. In addition to the rise in patent applications, the growth of high-tech industries like artificial intelligence (AI), semiconductors, and software-related businesses, as well as patent aggregation, create conditions that may lead to troll-like behaviour. These developments pose a crucial question for stakeholders and policymakers: could patent trolling start to jeopardize innovation, take funds away from R&D, and undercut the patent system's intended incentives as India's technology landscape develops?

[10] Patents Act 1970, s 146(2); Patents Rules 2003, r 131.
[11] K. Nagamothu, "Patent Trolls: Navigating the Fine Line Between Innovation and Exploitation in India's Legal Landscape", *Intepat IP Blog*, *available at*: https://www.intepat.com/blog/patent-trolls-navigating-the-fine-line-between-innovation-and-exploitation-in-indias-legal-landscape (last visited on November 18, 2025).
[12] *Spice Mobiles Ltd v Somasundaram Ramkumar*, [2012] SCC OnLine IPAB 100 : [2012] IPAB 99, Intellectual Property Appellate Board.

This essay contends that although India has not yet experienced widespread patent trolling, the nation's expanding patent filings, quick technological development, and growing intellectual property aggregation create an environment where abusive practices may occur. In a rapidly changing innovation ecosystem, current protections like the exclusion of software patents, post-grant opposition under Section 25(2)[13], mandatory licensing under Section 92[14], and the appointment of scientific advisors under Section 115[15] may be insufficient. Based on an analysis of the domestic legal framework, sector trends, and international experiences, India's patent system requires anticipatory measures, clear policies, and perpetual monitoring, rather than unsolicited litigation costs, to ensure that it remains a tool for supporting genuine technological advancement.

What is Patent Trolling? A Global Perspective

Patent trolling is a practice of obtaining patents beforehand for the purpose of enforcing them against the alleged infringers, instead of utilizing them to create goods and services for public welfare and innovation. It has been observed more in environments where there is an aggressive enforcement of patents on companies for their own financial benefits, like the United States. Without the intention of advancing technology, their main goal is to profit from licensing fees or lawsuit settlements.

i. Non-Practicing Entities (NPEs) and Patent Assertion Entities (PAEs)

NPEs are entities, universities, or companies that prioritize making money off of patents through litigation or licensing over creating goods or services. Although many NPEs have been labeled as "patent trolls," some of them legitimately assist research institutions and inventors in safeguarding their inventions and making money from patents that might otherwise go unused. These organizations can facilitate the dissemination of technology and promote additional innovation by bridging the gap between invention and commercialization.

There are generally three types of NPEs. Holding companies acquire patents in emerging or high-demand sectors, licensing them or taking legal action against infringers. Examples include

[13] Patents Act, 1970 (India), s 25(2).
[14] Patents Act, 1970 (India), s 92.
[15] Patents Act, 1970 (India), s 115.

Intellectual Ventures, which owns patents for innovations such as waterless washing machines and medical devices, and Acacia Technologies, which licenses patents on behalf of inventors. Usually, research organizations and universities create valuable patents but lack the resources to commercialize them. A technology-transfer office handles patent licensing or sales, as seen in institutions like South Korea's Electronics & Telecommunications Research Institute and Taiwan's Industrial Technology Research Institute. Patent pools are collective arrangements where multiple companies pool their patents related to a specific technology or standard and share licensing. This approach decreases infringement risks, reduces transaction costs, and encourages wider access to essential technologies. Examples include Sisvel and Avanci, NPEs that oversee standard-essential patents in telecommunications and connected devices.

Traditional functions of NPE entail the identification of prospective licensees, the acquisition of patents with legal and commercial values, and ensuring the patents protect basic technology standards. Advanced tools, such as PatSeer, consolidate global patent data, ownership information, and litigation histories that help the NPE make better-informed decisions and manage portfolios more effectively[16].

PAEs are a type of NPEs and are often called “patent trolls”. They become patent trolls the moment they use patents only to pressure companies into paying settlements or licensing fees. The focus on using patents to make money and not promote innovation or invention in the market. But not all PAEs are patent trolls. Some genuinely fairly use their patents and help inventors make money from their patents. There is a very thin line between the fair use and the exploitation of patents.

Various mechanisms have been developed to deal with the risks created by opportunistic PAEs. LOT Network allows member companies immunity in lawsuits from PAEs if their patents are sold or otherwise transferred to such entities. Experienced judges, lower litigation costs, and clear damages rules help European jurisdictions keep speculative claims at bay. These various safeguards underscore the broader institutional and legal frameworks that underpin the delicate balance between patent enforcement and the protection of genuine innovation[17].

[16] What Are Non-Practicing Entities (NPEs) and How Do They Operate?, *PatSeer*, *available at*: https://patseer.com/what-are-non-practicing-entities-npes-and-how-do-they-operate/ (last visited on November 22, 2025).
[17] What Are Patent Assertion Entities (PAE) and How Can You Protect Against Them?, *HCR Law*, *available at:* https://www.hcrlaw.com/news-and-insights/what-are-patent-assertion-entities-pae-and-how-can-you-protect-against-them/ (last visited on 28 November 2025).

Overall, both NPEs and PAEs are complicated in their own ways. If they act in a responsible way, they help inventions reach the market and be used widely and efficiently. But when they act only to take advantage for their own good, they become "patent trolls". The key here is to create a balance in the market and understand how to operate them effectively and efficiently, because that knowledge will make a positive impact on the market.

ii. Legal Initiatives in U.S. Case Law and Public Interest

Courts in the United States have played a key role in setting boundaries on how patents can be enforced. Their decisions have helped protect patent owners and the public at large. This ensures that patent trolls do not get the advantage from the loopholes by slowing down the innovation and pressuring businesses.

The Federal Circuit considered, in *NTP, Inc. v. Research In Motion Ltd.*[18], the alleged infringement of patents related to integrating email systems with defendant RIM's BlackBerry™ devices. The court made clear that patent claims can cover both wireless and wired systems and that using this patented method within the United States can serve as infringement, even when components of that system are out of the country. More importantly, however, this case established a significant precedent on the tighter territorial limits imposed on method claims. Second, the judgment shows how the courts can apply the broad reading of a patent claim and still narrow the scope of infringement liability. This has impacted subsequent litigation strategies and patent portfolio management.

The Supreme Court discussed in *eBay Inc. v. MercExchange*[19] the entitlement of non-practicing entities to permanent injunctions. It stressed that NPEs do not have an automatic right to such remedies, and courts must consider: irreparable harm on the plaintiff, whether monetary damages are adequate, the balance of hardships between parties, and the interest of the public. The decision opened the door for alternatives to injunctions, with ongoing royalty payments being a common option when a patentee is not commercially exploiting the invention. The Court emphasized that equitable relief was preferred over automatic injunctions, pointing out that patent enforcement needs to take into account larger economic and public effects as well, and cannot let opportunistic litigation unduly hinder market competition.

[18] *NTP, Inc. v Research In Motion, Ltd.*, 418 F.3d 1282 (Fed Cir 2005).
[19] *eBay Inc. et al. v MercExchange*, L.L.C., 547 U.S. 388 (2006).

These cases make it clear that U.S. courts play an important part in detailing the limits to patent enforcement, particularly regarding non-practicing entities. These decisions set boundaries on damages, territorial scope, and equitable relief to offer protection for the real patent holders while at the same time providing checks against predatory practices by non-practicing entities that could stifle innovation.

iii. Mechanisms of Patent Troll Operations

PAEs, often referred to as patent trolls, apply the economic value of patent rights instead of making or selling products or advancing any technology in their own right. They extract value from patent holdings without engaging in innovation by following a six-step approach in their activities.

First, patent trolls acquire patents from companies even if they are bankrupt or financially unstable, integrating the intellectual property that may have potential market value. Second, they conduct thorough research on companies and examine those that are most likely to have products or services that might infringe on the acquired patents and the businesses whose litigation costs may exceed the settlement costs. Third, when they have found the specific type of company, they issue demand letters threatening and pressuring the companies for settlement, often emphasising the risk and expense of opportunistic litigation.

The fourth step is to exploit the advantage of legal defence costs that are higher than the settlement costs of fighting a lawsuit in court. Fifth, when the targeted companies are unwilling to settle, through increased court time and legal involvement, the trolls increase the pressure and costs on them. Finally, this is how these trolls make a trap for the companies without contributing to product development, research, or public knowledge; they generate revenue merely from settlement and licensing fees.

This sequence imposes economic costs on companies and has a deterrent effect on innovation by diverting resources away from research and development. It is therefore crucial for policymakers and businesses to understand these mechanisms to curb the risks imposed by NPEs.

iv. Reasoning Behind Declined Innovation

The innovation ecosystem is significantly hindered by patent trolling. The threat of litigation is emerging as companies and independent inventors are inhibited from undertaking new ideas or entering nascent markets. Startups and smaller businesses often postpone or give up on projects because of the possible expenses and dangers involved in defending patent claims. Patent trolling reduces resources that are available for R&D. Businesses spend money on legal defences, settlements, or licensing fees instead of investing in new product development, technological advancements, or market expansion. These diverted funds slow innovation and decrease overall economic efficiency.

Furthermore, it becomes more challenging for the real innovators to compete and even survive in the market due to the extra expenses imposed by patent trolls, which distorts competition. Even though there are some NPEs that are operating legally and assist inventors by licensing their patents and consequently exploiting innovation commercially. However, the overall effect of opportunistic patent assertion is extremely adverse. In this case, patents undermine the fundamental purpose of the IP framework by using litigation instead of technological advancements[20].

India's Patent Landscape, Challenges, And Impact

India's patent system is adhering to international IP standards while becoming more concentrated on promoting domestic innovation. In addition to protecting the inventor, the relevant legal framework guarantees that inventions are used practically for the benefit of the economy as a whole. The efficiency, quality, and general efficacy of the patent system are still determined by certain structural problems, despite efforts to improve this area.

i. Strengths

Encouraging Innovations: Because patents give inventors temporary exclusive rights, they are encouraged to devote time and resources to research and development. Startups and small businesses can benefit from initiatives like Startup India and the SIPP, which offer professional

[20] Patent Trolls and Their Impact on Innovation and Economic Growth, *Sandalaw Offices*, *available at:* https://sandalawoffices.com/patent-trolls-and-their-impact-on-innovation-and-economic-growth/ (last visited on November 23, 2025).

assistance, expediency, and fee reduction. By lowering entry barriers for innovators, these programs allow small businesses to effectively compete with large corporations in the development and marketing of new technologies.

Working Requirement Form 27: Indian law mandates that patent holders report regularly whether their patents are being "worked" or used in India. This has been done to make sure that granted patents don't do nothing useful. For example, if a pharmaceutical company has a patent for a medication that can save lives, it must either manufacture the medication in India or provide licensing information if it does not. As a result, this clause encourages the use of strategic patents to stifle innovation in important industries and discourages patent hoarding[21].

Compulsory Licensing: In certain circumstances, such as national health emergencies, third parties may use patented inventions under the Indian patent system without the owner's consent. This strategy strikes a balance between the right to patent protection and the public interest. Based on the idea that patents would not impede the greater public good, one such well-known application involved pharmaceuticals that lowered the cost of necessary medications, especially life-saving HIV medications.

Low Damages and Slow Litigation: These factors serve as a buffer for startups and small businesses, even though they frequently act as disincentives for enforcement. These companies don't have to worry about aggressive lawsuits from more cunning patent holders when they innovate and enter new markets.

Public Sector Patent Monetization: The Indian government promotes the commercialization of patents created in publicly funded research institutions. In order to commercialize these innovations from research labs and universities, it promotes technology transfer and licensing agreements. By doing this, the government prevents the waste of publicly funded research and instead encourages economic growth.

ii. Weaknesses

Uncertain Patent Standards: Software and business-method patents in India still have ambiguous patentability requirements. In fields like artificial intelligence (AI), fintech, and other

[21] Positioning India in the Global Patent Ecosystem, *Conventus Law*, *available at*: https://conventuslaw.com/report/positioning-india-in-the-global-patent-ecosystem/ (last visited on 25 November 2025).

software-related fields, innovators might not know what is patentable. Investment may be deterred, and cases that are on the verge of patentability may give rise to legal disputes.

Inconsistent quality of examination: A wide range in the abilities and availability of patent examiners can lead to weak, excessively broad, or excessively narrow patents. A patent application that shouldn't be approved because of prior art, for example, might still pass the examination in the absence of sufficient examiner resources, raising the possibility of disagreement or opportunistic litigation.

The weakness of the opposition system: Although post-grant opposition is available, the mechanisms for contesting patents are relatively few and underutilized, which reduces the ability to weed out inferior patents that could otherwise impede future innovation or prevent competitors from entering the market through unfair means. This is the root of the opposition system's weakness[22].

Backlogs in administration: Despite efforts to digitize and reform related processes, patent applications often face considerable delays before examination and grant. This backlog delays commercialization, market entry, and practical impact.

Early Warning Signs of Future Patent Trolling in India

In addition to general warning indicators, a number of trends in India's changing intellectual property landscape point to potential future developments in patent trolling. A greater pool of assets that can be targeted or traded has been made possible by the steady increase in patents in software, fintech, pharmaceuticals, and artificial intelligence. In addition to domestic companies, foreign assertion entities seeking opportunities in Asian markets, where enforcement costs may be lower and legal proceedings may take longer, are beginning to show interest in this expanding patent stock.

Some Indian companies have begun to act more like non-practicing entities, which is a more subtle but significant change. These businesses purchase dormant or underutilized patents from failing startups, established tech firms, or inventors who are unable to make their creations

[22] India's Patent Landscape: Status, Challenges and Way Forward, *IAS Gyan*, *available at*: https://www.iasgyan.in/daily-current-affairs/indias-patent-landscape-status-challenges-and-way-forward (last visited on 26 November 2025).

profitable. Although this pattern is not harmful in and of itself, it can become problematic if acquisition is followed by aggressive licensing demands instead of true innovation.

Recent disputes in fields like digital payments and Aadhaar-linked technologies demonstrate how industries with fast technological and regulatory development can be hotspots for assertion activity. For example, fintech is vulnerable to broad or overlapping patents because it sits at the intersection of software, data, and financial regulation.

Government programs that encourage patent monetization and the growth of patent markets are encouraged for commercialization, but they may unintentionally lead to speculative trading. There will be more strategic purchasing to enforce rather than to innovate as patents gain value on their own. In such a setting, startups are especially vulnerable. The majority of them operate in highly competitive innovation spaces, frequently operate on thin margins, and rely on ongoing funding. They may be persuaded to make speedy settlements by a single demand letter or threat of licensing to prevent losing investor trust or depleting their limited funds.

When combined, these patterns do not yet indicate that trolling is pervasive in India, but they do indicate the structural circumstances that could lead to its emergence. More clear-cut guidelines are required to guarantee that the developing patent ecosystem continues to encourage innovation as opposed to exploitation, surveillance, and stricter examination criteria.

Recommendations For India

India can actually alleviate and counteract patent trolling by elevating the general quality of patents, securing operational protections, and promoting actual commercial use of patented technologies. The country is lucky to have many built-in safeguards, but a few targeted adjustments would greatly improve the system's ability to withstand abuse. When taken as a whole, these can ensure that patents encourage innovation rather than being utilized as instruments of coercion and litigation.

i. Legal and Policy Reforms

After all, the best defence is built on stronger patents. Patents that are too general or poorly written are less likely to be overlooked thanks to ongoing, high-quality review. It would be advantageous to have more thorough training for examiners, more accurate inventive step

guidelines, and uniform practices across patent offices[23]. Software-adjacent technologies in particular need to be examined more closely because assertion entities have often exploited ambiguous or function-based claims[24]. When the system only allows well-defined, genuinely innovative inventions, trolls find the entire ecosystem less appealing.

Strengthen pre-grant and post-grant opposition: Opposition procedures are one of India's best ways to filter out weak patents, but they need more technical expertise and efficiency. The creation of a more specialized Opposition Board with more access to scientific information would lead to better decision-making. Faster turnaround times and greater transparency would also help businesses challenge questionable patents before they are exploited as legal fodder. When these mechanisms are effective, they reduce the long-term risks for innovators.

Reinforce compulsory licensing and working requirements: Although India's working requirement discourages the hoarding of unused patents, its implementation is uneven. Genuine innovators can be distinguished from the organisations that gather patents by using more potent reporting standards, substantial penalties for non-compliance, and recurring inspections in compliance with Section 146(1). If the mandatory licensing timeline were reevaluated, especially if a patent is not used for an extended period of time, technologies would not be restricted or bought for conjectural purposes.

Introduce a post-patent review system: In order to achieve this, patent holders would have to show that their invention is being used during a recurring review at each stage of transfer or renewal. This prevents trolls and speculative buyers from obtaining dormant patents. Furthermore, a system such as this encourages patent holders to actively license or market their inventions.

Prevent the abuse of injunctions: Interlocutory injunctions remain one of the most effective tools in trolls' toolbox because they threaten to cause an immediate disruption. Courts can lessen this pressure by adopting a more measured approach when the plaintiff is a non-practicing entity with no commercial activity. A test that considers working requirements, the public interest, and the balance of convenience should be put in place to ensure that injunctions are only granted when they are genuinely justified.

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[23] Patents Act, 1970 (India), ss 8, 10, 12.

[24] Gopika Mahesh, *Scope of Patentability of Software in India: A Comparative Study* (LL.M. dissertation, National University of Advanced Legal Studies, Kochi, 2025) *available at:* chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://14.139.185.167:8080/jspui/bitstream/123456789/1693/1/LM0224008%20GOPIKA%20MAHESH.pdf (last visited on November 28, 2025).

Cap damages in troll-like situations: If damage caps were put in place by law or regular judicial practice, trolls' financial power would be diminished. When the potential damages are reasonable and proportionate, trolls can no longer coerce businesses into quiet settlements out of fear of inflated financial loss. By doing this, abuse is reduced without compromising law enforcement.

Promote open innovation and FRAND licensing: In industries where technology is standardized, such as digital payments or telecommunications, FRAND commitments ensure fair and open access. When FRAND commitments are made more transparent, standard-setting organizations are helped to maintain open licensing databases, and patent pledges or open-innovation frameworks are promoted, it becomes more difficult for assertion entities to abuse standard-essential patents.

ii. Procedural and Administrative Measures

Encourage Alternative Dispute Resolution (ADR): Trolls take advantage of the costly and drawn-out nature of court cases. The Commercial Courts Act can be used to counter this by increasing the appeal of arbitration and mediation. If companies could settle disputes more quickly and affordably through specialized IP mediation centers, qualified mediators, and streamlined procedures, one of the trolls' main points of pressure would be lessened.

Establish a public database to monitor patent assignments and PAEs: Transparency is a low-cost but powerful preventative measure. A publicly available database of crucial patent transfers, ownership changes, and organizations categorized as aggressive asserters would be essential to help businesses to foresee and lessen the risk. By revealing patterns that might not otherwise be obvious, it also benefits investors, due diligence teams, and policy leaders.

Improve commercialization of public-sector and university patents: The majority of patents held by universities and public research organizations are not in use. By bolstering technology-transfer offices, offering financial incentives for licensing, and creating more open IP policies, these organizations would be motivated to use their patents. Assertion entities have fewer targets to acquire because there are fewer dormant patents.

Increasing awareness among companies: Most startups don't know how to respond to a demand letter, let alone assess the validity of a patent[25]. Government-led guidelines, online

[25] A. Bansal, *Awareness and Preparedness of Startups Against Patent Trolls* (2019) 11 *International Journal of Intellectual Property* 120.

checklists, workshops, and in-person IP clinics targeted at startups can all help close this gap. When businesses are aware of their rights, trolls lose a lot of influence.

iii. Strategic Recommendations for Businesses

Join defensive networks or pools: Networks like LOT Network prevent future use of members' patents by assertion entities. In India, the creation of smaller sector-specific pools, especially in fintech, software tools, and biotech, creates a shared layer of protection. This ensures that even in the case of a company selling its assets or going out of business, patents cannot be used as a weapon against other innovators.

Seek special legal advice: The worst thing a business can do in response to a demand letter is to act irresponsibly or in a panic. The business can ascertain whether the claim is valid, whether the patent can be revoked, and how to respond without giving the troll more power by speaking with an experienced patent lawyer. Too often, a measured, cool-headed response totally stops escalation.

Conclusion

An intriguing turning point is reached in India's patent system. Through measures like stringent patentability requirements, Section 146's working requirement, mandatory licensing, and a strong system for pre-grant and post-grant opposition, the nation was able to avoid the widespread problems associated with patent trolling for many years. The judicial scrutiny in cases such as *Spice Digital and Samsung v. Somasundaram Ramkumar*[26] have reinforced the quality and integrity of India’s patent landscape. Nevertheless, such actions that once shielded the nation are gradually changing as the innovation economy is expanding.

Due to a consistent increase in patents in the fields of pharmaceuticals, digital payments, fintech, software-adjacent technologies, and artificial intelligence, the pool of assets that can be traded, licensed, or enforced has surged. By new behavioural patterns these claims are associated. Foreign assertion entities have an immense focus on Asian markets with slower implementation of systems, and private Indian companies have started purchasing inactive or

[26] *Spice Digital Ltd. and Samsung Electronics Co., Ltd. v. Somasundaram Ramkumar*, 2011 SCC OnLine Mad 2733.

unexploited patents from troubled startups. Dynamic industries can become hotspots for claims when there are conflicts in fields like payment platforms and Aadhar-related technologies.

Government programs often encouraging patent markets and capitalization is beneficial from commercialization point of view. However, they also tent to create opportunities for patent trollers. By analysing the global experiences of China and the United States we can interpret how quickly trolling can amplify when a combination of aggressive assertion, weak patents, and opportunistic litigation starts to take off.

Consequently, India should act swiftly to bolster this framework before opportunistic enforcement fully takes hold. Mandatory licensing and a working-requirement system must be implemented more continuously to stop the hoarding of unused patents. A structured post-patent review would be used to authenticate actual commercial activity when a patent is revived or relocated. Courts can further curb exploitative practices by meticulously utilizing interim injunctions in cases where the enforcing party is not involved in commercial activity.

Procedural tools like Alternative Dispute Resolution (ADR), a publicly accessible database that displays PAE behavior, and prospects for better technology transfer from universities can assist early detection and reduce litigation pressure. Businesses will continue to depend on defensive networks, patent pools, FRAND commitments, and timely legal advice. When we consolidate such steps, it can be interpreted that India's expanding patent framework promotes real research, technological development, and market competition. If India takes swift and definitive action, it can actually prevent adverse patent claims and preserve a system that fosters innovation rather than exploitation.

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Investment in Intellectual Property in India with Special Focus on MSMEs, Startups and IP Audit

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Abstract

Historically, investment has been conceptualised as investing in tangible commodities like land, equipment, and infrastructures with an aim of getting returns in future. But this has evolved with the expansion of the innovation-driven economy. The key element of value creation today is ideas, technology and knowledge and thus Intellectual Property (IP) is a significant type of investment. These innovations are safeguarded by IP rights like patents, trademarks, designs, and technical know-how which help in achieving long-term economic growth.

Despite recent changes, intellectual property in India remains an underutilized investment tool particularly among Micro, Small and Medium Enterprises (MSMEs) and start-ups. These organisations are very reliant on innovation because of the lack of physical resources, but struggle to commercialise their IP. Financial institutions often prefer physical assets as security and view IP as risky because of valuation challenges, enforcement issues etc.

This paper discusses the concept of IP as an investment and its application in the Indian context. It outlines the advantages of IP investment in MSMEs and start-ups, compares the IP investment system in India with other countries and highlights the role of IP audits in terms of identifying, protecting the intellectual property.

Keywords: Intellectual Property (IP), Investment, Micro, Small and Medium Enterprises (MSMEs), Startups, IP Audit.

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Introduction

Intellectual property rights (IPR) are legally safeguarded rights that protect human-created inventions, brand names, product designs, and other artistic creations. Such rights include patents, trademarks, design protections, and copyright. They assist inventors and businesses to ensure that no other person or business duplicates their idea and they can get the profits out of it. Intellectual property is not merely an element of law but also an investment asset nowadays. Intellectual property, as with the land or machinery, can be sold, licensed, or used to generate revenue, and in most enterprises, it is the most valuable thing that they possess.[2]

The contemporary economies are concerned with IP, as innovation contributes to growth in the long term. Those firms which are investing in research, technology, and branding tend to be more competitive as well as sustainable. The countries that favour IP creation and protection have better positions in the world markets.[3] From a legal perspective, safeguarding IP would help to get people and businesses to be innovative without the fear of abuse. Protection itself is however, not sufficient. To truly facilitate economic growth, IP should also be able to be valued, financed, and commercially exploited. This is where most of the developing economies, such as India, struggle.[4] Among the well-established companies in India, the market is sharply competitive, and the sale of new stock heavily depends on investments in the country.

Investment is the act of putting money or resources into something that would yield benefits in the future.[5] Traditionally, investment was understood in connection with only material objects like land, factories, machines, and equipment. These were tangible assets that could easily be valued and easily sold to secure loans. Indian commercial and financial systems were built around this idea, where value could be easily seen and measured.

This perception of investment has, however, changed today. Physical assets are not now the primary factor in many businesses. Rather, their real asset is ideas, technology, brand names,

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[2] Jennifer Collins, *Why Is Intellectual Property Important in Today's Innovation-Driven World?*, AGH Attorneys (May 30, 2025), https://agh-attorneys.com/why-is-intellectual-property-important-in-todays-innovation-driven-world/.

[3] Anoop Verma, *India's Intellectual Property Revolution: A Cultural Shift Towards Innovation*, ETGovernment Economic Times Gov't, (July 23, 2025), https://government.economictimes.indiatimes.com/news/digital-india/indias-intellectual-property-revolution-a-cultural-shift-towards-innovation/122840162.

[4] Smriti Yadav & Madhura Sureshkumar, *The Rise of IP as a Strategic Asset in Indian Startups*, Khaitan & Co Compass (Apr. 22, 2025), https://compass.khaitanco.com/the-rise-of-ip-as-a-strategic-asset-in-indian-startups.

[5] *Investment*, in *Cambridge Dictionary* (Cambridge Univ. Press), https://dictionary.cambridge.org/dictionary/english/investment (last visited Jan 05, 2026).

and innovation. Intangible resources have begun to assume a bigger role than tangible ones as economies lean more towards being knowledge-based.[6]

Tangible assets are those that have a physical form, such as buildings and machines. These assets can be identified easily, and as such, banks and other financial institutions easily receive them as collateral.[7] Intangible assets, however, do not have a physical form but still create economic value. For example, research and development, software, brand value, and intellectual property. Recognising the growing importance of such assets, India has taken several steps to enforce its intellectual property framework. The policies, such as the National Intellectual Property Rights Policy, 2016[8] and start-ups special schemes like the Scheme for Facilitating Startups Intellectual Property Protection (SIPP)[9] shows that the government recognises the importance of IP.[10] Due to such efforts, patent, trademark, and design applications have grown, particularly among startups and small firms.

However, the gap between legal recognition and financial acceptance remains evident, especially in the case of Micro, Small and Medium Enterprises (MSMEs) and start-ups. Such businesses do not necessarily have big physical resources, yet they are rich in ideas, innovativeness and creativity. They develop valuable IP and get IPR protection but in most cases are unable to utilise their IP in order to finance themselves because of lack of awareness, valuation challenges and low financial institution support. This means that the intellectual property rights are largely applied on a purely legal protection rather than on an economic gain.

In this case, an IP audit would be highly significant. An IP audit assists a business to determine and be aware of what intellectual property it possesses and the value of the same.[11] For MSMEs, IP audits help uncover hidden value, reduce legal risks, and make IP suitable for valuation and financing. Without proper auditing, IP-backed financing becomes risky for lenders. Thus, an

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[6] Andrews, D. & A. de Serres (2012), "Intangible Assets, Resource Allocation and Growth: A Framework for Analysis", *OECD Economics Department Working Papers*, No. 989, OECD Publishing, Paris, https://doi.org/10.1787/5k92s63w14wb-en.

[7] CFI Team, *Tangible Assets*, Corporate Finance Institute, https://corporatefinanceinstitute.com/resources/accounting/what-are-tangible-assets/ (last visited Jan. 5, 2026).

[8] Government of India, Department for Promotion of Industry and Internal Trade, *National Intellectual Property Rights Policy* (May 12, 2016), https://ipindia.gov.in/writereaddata/Portal/Images/pdf/2016-_National_IPR_Policy-2016__English_and_Hindi.pdf.

[9] Department for Promotion of Industry and Internal Trade (DPIIT), *Scheme for Facilitating Start-Ups Intellectual Property Protection (SIPP)* (10 Apr. 2023), https://example.gov.in/ (last visited Jan. 28, 2026).

[10] Drishti IAS, National IPR Policy, DRISHTI IAS (June 2, 2023), https://www.drishtiias.com/daily-updates/daily-news-analysis/national-ipr-policy.

[11] Aggarwal Associates, *Intellectual Property (IP) Audits: Protect Your Assets & Maximize Value*, Aggarwal Associates (Apr. 2025), https://aggarwalassociates.com/intellectual-property/intellectual-property-audits/.

IP audit is not merely an administrative tool, but it is a tool that is necessary in making IP a useful investment.

Intellectual Property as an Investment Asset: Concept and Legal Basis

Intellectual Property (IP) is the idea of creations of the human mind that have legal protection. Even though IP is not in physical form, the legislation gives the owner exclusive rights over their creations, and also the owner has the right to regulate them. This makes IP of economic value and makes it capable of being treated as an asset. There are various types of IP that are safeguarded by other laws in India.[12]

Type of IP	**What it Protects**	**Relevant Legislation**	**Why it matters for investment**
Copyright	Original expression like books, articles, music, film, etc. (but only expression, not ideas)	The Copyright Act, 1957	Generates income through licensing, publishing, assignment, etc.
Trademark	Brand identity such as name, logo, symbol, tagline, etc.	The Trademark Act, 1999	Protect brand value and goodwill, which influence investors' confidence.
Patent	New inventions (products or processes)	The Patent Act, 1970	It grants exclusive rights over innovation, ensuring market advantage and secure returns for investors.
Geographical Indications	Products that are linked to a specific	The GI Act, 1999	Enhances market value

[12] Karan Singh, *Types of Intellectual Property Rights in India*, Swarit Advisors (Mar. 24, 2021), https://swaritadvisors.com/blog/types-of-intellectual-property-rights/.

	place due to quality and reputation		
Industrial Design	Appearance of products, like shape, patterns, color, etc.	The Design Act, 2000	Strengthens investment value by enhancing product aesthetics, brand identity, and commercial competitiveness.

The only similarity between all these types is that they are all rights known and accepted by the law as property and enforceable. These rights are legally safeguarded, and therefore, the IP is not just a notion but a piece of property. This recognition is essential for perceiving IP as something that money, time, and effort can be put into with the view of future payoff.

i. Investment in Intellectual Property: A Shift in the Approach

Intangible investment consists of a significant portion of intellectual property. Invention of a patent, trademark, or design is costly in terms of money and time used in conducting research, development, registration, and protection with the promise of receipt of returns in the future. Intellectual property, in contrast to physical property, can be reused and can generate revenue over the long term, and this can be either through licensing or selling or even through commercial use.

The emergence of start-ups and technology-based businesses in India is an indication of increasing appreciation of intellectual property as an economic asset. This tendency has become more noticeable in the COVID-19 pandemic, when people depend more on technologies.[13] Nevertheless, even with this pragmatic expansion, Indian law has yet to completely evolve a clear policy to consider intellectual property as an organized type of investment. "Common methods of investing in intellectual property-

[13] E.R. Gold, *What the COVID-19 Pandemic Revealed About Intellectual Property*, 40 Nat. Biotechnology. 1428, 1428–30 (2022), https://doi.org/10.1038/s41587-022-01485-x.

One of the well-known forms of intellectual property investment is research and development. Innovators and firms will use money to create new products, processes, or technologies. The intellectual property rights allow them to recover these costs by providing special rights over the innovation. Such an investment would be dangerous without legal security, as competitors would be able to replicate the innovation without any restrictions.

Crowdfunding is another method that gives innovators a chance to collect funds from the public, particularly start-ups. Even though this practice promotes entrepreneurship and creativity, it also poses a question of idea security and misuse of invention because invention can be abused when publicly disclosed with no proper protection under the law. Crowdfunding has not been clearly regulated by the Indian IP laws, so crowdfunding is legally an uncertain form of investment.

Licensing and assignment are common ways of monetizing of intellectual property. The difference between assignment and licensing is that in the former, the ownership is transferred entirely, whereas in the latter, other people are allowed to use the intellectual property under particular conditions. These approaches are good indications that intellectual property is like property-it can be bought, shared and utilised to make money. Nevertheless, the implementation and reasonable assessment are significant obstacles.

Franchising is one business model where the intellectual property is applied in expanding the business through trademarks, trade secrets, and business methods. The performance of food and retail franchises demonstrates that the intellectual property can ensure the expansion of business without the need to have the physical outlets all the time. Although not fully addressed in the Indian IP laws, it is governed by contract law instead of an exclusive IP investment law.

Intellectual property may also be secured as a collateral like land or machinery to raise funds. However, in India, the practice is undergoing severe challenges because of valuation, enforcement and legal non-recognition. Current legislation is only partially supported and in an indirect manner, thus, the financing based on IP is not certain and is not used sufficiently.

Despite the fact that intellectual property is now being dealt with practically as an investment asset, the Indian law lacks a coherent and transparent system of IP investment. Other important investment-related operations like crowdfunding, collateralisation, and franchising are either loosely regulated or not addressed at all. This loophole leaves doubt among investors,

innovators and financial institutions. Consequently, intellectual property has not been utilised as an economic resource in India, particularly by the MSMEs and start-ups."[14]

ii. Intellectual Property Valuation

In order to attract investment, it is very important to know the value of your intangible assets. So, IP valuation is basically determining the value of your intellectual property, such as patents, trademarks, copyrights or trade secrets, in monetary terms.[15] In contrast to a machine or land, IP does not have a definite price, and so we must refer to the legal rights, business potential, and demand in the market to determine its worth. It is essential that businesses, particularly startups and small businesses, know the worth of IP to attract a source of financing, sell or license their idea, or strategise their future development.[16] "IP is generally valued in three major ways:

- **Cost Method:** This examines the amount of money that was used in the creation of the IP (such as R&D, legal fees, marketing). Good news for the new IP, but it does not say how much money it would make further on.
- **Market Method:** The market method is where you compare your IP with other similar IP which have been sold or licensed. Applicable to well-renowned brands, but it may be difficult to locate identical-like examples.[17]
- **Income Method:** Determines the earnings that the IP can make in the future and moves them to the present. Patent or brand which generates income, but the figures are based on projections, which are not always true."[18]

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[14] Asna Ahmed, Ahmar Afaq & Rupal Chhaya, *Revisiting the Investment Opportunities in Intellectual Property*, 27 J. Intell. Prop. Rts. 317 (2022).
[15] Susan Chaplinsky & Graham Payne, *Methods of Intellectual Property Valuation*, SSRN Electronic Journal (Oct. 2008), https://doi.org/10.2139/ssrn.1279326.
[16] World Intellectual Property Organization, *Intellectual Property Valuation: Valuing Intellectual Property Assets*, WIPO, https://www.wipo.int/sme/en/ip-valuation.html (last visited Jan. 7, 2026).
[17] Rajdip Das, *Various Methods of Intellectual Property Valuation: All You Need to Know*, LegalServiceIndia.com, https://www.legalserviceindia.com/legal/article-13353-various-methods-of-intellectual-property-valuation-all-you-need-to-know.html (last visited Jan. 10, 2026).
[18] Christopher S. Walton, *IP Valuation: Intellectual Property Valuation Starter Guide* (Oct. 14, 2025), adgadvisors.in, available at https://adgadvisors.in/ip-valuation-how-to-assess-the-true-worth-of-your-intellectual-property/.

MSMEs and Startups in India: IP as a Strategic Investment

Startups and Micro, small and medium enterprises (MSMEs) are a key component in the Indian economic setup. On the basis of investment and turnover, MSMEs are defined under the Micro, Small and Medium Enterprises Development Act, 2006[19] whereas startups are recognised under the Startup India framework as being entities driven by innovation, scalability and generation of employment.[20] The significance of MSMEs and startups is much higher than numbers. "After agriculture, MSMEs are the second-largest employer and contribute immensely to the GDP of India, manufacturing output as well as exports."[21] Not only does this sector contribute to the economic growth but also the development of regions and entrepreneurship. On the other hand, startups serve as the engines of innovation by introducing new technologies.

Investment in intellectual property presents various benefits to the MSMEs and startups. Trademark protection of brand identity assists businesses in developing trust, preventing abuse of brand names, and establishing credibility in the domestic and international markets.[22] Innovations based on technology and products are protected by patents and design protection, which allows the business to use their creations without fear of copying.[23] Exclusivity in the market is also another benefit of intellectual property rights, which allows businesses to recover their research and development expenses, reinvest in innovation, and grow their operations in a competitive and fair environment.[24]

Despite the advantages of intellectual property, most MSMEs and startups struggle to use the system effectively.[25] The registration of IP is time-consuming and consists of complicated procedures, which are difficult for small enterprises to manage without the assistance of a

[19] The Micro, Small and Medium Enterprises Development Act, No. 27 of 2006, India.
[20] Startup India, Government of India (2026), *Startup India Official Portal*, https://www.startupindia.gov.in/ (last visited Jan. 7, 2026).
[21] Press Information Bureau, Government of India, "Udyami Diwas-MSME Day 2025: Driving Innovation, Enabling Inclusion," (June 26, 2025), Press Note No. 154772, https://www.pib.gov.in/PressNoteDetails.aspx?NoteId=154772 (last visited Jan. 07, 2026).
[22] Sahithi, *Legal Protection of Business Identity: Trademark Filings by MSMEs*, 9 IRE J. 7 (Jan. 2026), https://doi.org/10.64388/IREV9I7-1713250.
[23] *Intellectual Property Rights (IPR) and Why Startups Must Prioritise Patents*, Startup India (June 27, 2023), https://www.startupindia.gov.in/content/sih/en/bloglist/blogs/intellectual-property-rights.html (last visited Jan. 7, 2026).
[24] Bao Tran, *How Smart Businesses Turn Intellectual Property Into Competitive Advantage*, PatentPC (Dec. 11, 2025), https://patentpc.com/blog/how-smart-businesses-turn-intellectual-property-into-competitive-advantage.
[25] Shobha Tiwari, *IPR in Startups: Challenges and Strategies*, *LawArticle* (Aug. 3, 2025), https://lawarticle.in/ipr-in-startups-challenges-and-strategies/.

professional. The filing and maintenance of IP rights is also expensive, which is a liability to businesses with limited budgets. Most of the entrepreneurs fail to realise the importance of IP and the ability to protect and enforce it due to insufficient knowledge of the law. Even with the IP protection, enforcement is frequently not strong, and small businesses might lack money and resources to prevent the copying of their ideas.

These issues demonstrate that intellectual property could be highly beneficial to MSMEs and startups, though there is a requirement of improved awareness regarding IP, institutional support, and simplified procedures in order to effectively utilise IP as a growth and investment tool.

India has taken several steps to strengthen the IP ecosystem for MSMEs and startups. Key initiatives include:

i. National IPR Policy, 2016[26]:

The introduction of the National Intellectual Property Rights (IPR) Policy, 2016, was aimed at establishing a robust and balanced intellectual property system in India by looking at intellectual property as an instrument of innovation, entrepreneurship, and economic investment beyond a mere legal right.

The policy is meant to raise awareness among the people and businesses on intellectual property and its economic worth. It aims at educating, training, and sensitising them in order to know the significance of protecting their ideas and encourage them to invest in IP. Simultaneously, the policy aims at advancing innovations and development of intellectual property, including patents, trademarks, and designs, to convert innovative ideas into profitable and commercially exploitable property.

The policy also suggests legal and administrative changes such as streamlining procedures, accelerated application review and digitisation of IP offices, which can minimise uncertainty in businesses. The other significant objective of the policy is to assist in the commercialisation

[26] Gov't of India, Dep't for Promotion of Indus. & Internal Trade, *National Intellectual Property Rights Policy, 2016* (2016), https://ipindia.gov.in/writereaddata/Portal/Images/pdf/2016-_National_IPR_Policy-2016__English_and_Hindi.pdf.

of intellectual property.[27] Through promotion of licensing, transfer of technology, and entrepreneurship, it aims to turn IP into actual economic value, which will enable businesses to gain economic advantages out of their innovations.

Even though the National IPR Policy, 2016, has empowered the intellectual property system in India, it has its shortcomings and creates some concerns. One of them is that the policy places too much emphasis on increasing the number of patents and IP rights, particularly in relation to research that is government-funded. This may discourage the researchers from openly exchanging knowledge that could benefit society.[28] The other issue is that the policy is focusing more on formal businesses and urban innovators, unlike rural and informal sectors where creativity can be everywhere without the necessary documentation and legal knowledge. Lastly, the policy tends to give more advantages to IP owners than the general public, and this may restrict the sharing of the knowledge and form an inequality unless special measures are taken.

Though the policy enhances confidence with the IP system and allows investment to take place, its benefits will only be realised fully when protection is balanced with affordability and inclusiveness. This equilibrium is significant in the long term and in innovation-led economic growth.

ii. Intellectual Property Protection Scheme of Facilitating Startups (SIPP)[29].

The Intellectual Property Protection Scheme of Facilitating Startups (SIPP) by the Government of India is one of the most significant attempts to attract startups and innovators to invest in intellectual property. The scheme was introduced as a part of the Startup India Action Plan geared towards affordable, efficient and accessible IP protection.

In the case of startups, early patents and trademarks are discouraged due to the high cost and ignorance of the law. The gap was filled with SIPP, which offers free professional IP services where the government covers the costs of facilitators. SIPP scheme assists Indian startups in

[27] Vajiram Editor, *National Intellectual Property Rights (IPR) Policy 2016*, Vajiram & Ravi (Jan. 5, 2026), https://vajiramandravi.com/upsc-exam/national-intellectual-property-rights-policy/.
[28] Id.
[29] Scheme for Facilitating Start-ups Intellectual Property Protection (SIPP), Intellectual Property India (Gov't of India), https://ipindia.gov.in/SIPP.htm.

safeguarding their ideas and inventions. It applies to DPIIT-registered startups, WIPO-supported centre users, government educational institutions and those who submit international patent applications. The programme offers free assistance to startups through highly qualified professionals such as patent agents, lawyers, and government institutions that take them through all the various stages of the process, such as drafting and submission of applications, hearings, and approval. It also invites startups to secure their inventions in the international market.[30]

The SIPP scheme enables startups to perceive intellectual property as an investment, not an expense, by lowering the costs involved and introducing them to legal services. Protected IP enables start-ups to access investors, improve the worth of their enterprises, sell or license their inventions, and compete in local and global markets. In this way, SIPP can assist in transforming creative ideas into business assets and contribute to the development of India as an innovation-driven economy.

iii. Establishment of IPFCs

The Indian government has also come up with various programmes to assist startups and MSMEs to invest in IP and utilise it as an asset to the business. There are numerous small businesses that come up with good ideas and innovations, yet they lack knowledge of how to safeguard or even make profits out of them. To solve this issue, the government established Intellectual Property Facilitation Centres (IPFCs) in the country.[31]These centres make businesses realise that IP is not merely a legal requirement, but it may also add value to the company and enable people to invest in it.

Intellectual Property Facilitation Centres (IPFCs) act as a valuable service to companies, particularly MSMEs and startups which may lack the financial resources and expertise to address IP issues. These centres assist businesses to verify the originality of their ideas and trademarks by conducting IP searches, provide legal assistance on patents, trademarks, and copyrights, and assist businesses with registration and filing of IP rights, and advise businesses

[30] Kritika Narula & Ragini Kumar, *Safeguarding Innovation: Government's Focus on Startups' Intellectual Property Protection* (May 25, 2023), *Invest India*, https://www.investindia.gov.in/blogs/safeguarding-innovation-governments-focus-startups-intellectual-property-protection.
[31] Ministry of Micro, Small & Medium Enterprises, *IP Facilitation Centre for MSME*, Government of India (last updated Oct. 22, 2016), https://msme.gov.in/ip-facilitation-centre-msme.

on how to defend and enforce their IP against abuse. They also encourage the creation and commercialisation of IP, e.g. via licensing. IPFCs facilitate businesses to safeguard and utilise their intellectual property at an early phase by simplifying IP procedure and making it less costly.[32]

From an investment perspective, IPFCs are important in the creation of IP-backed financing. When intellectual property is registered, valued and institutionally supported, it can become a valuable asset of the business. It will bring investors more confidence and make more likely the chances of raising funds, commercialising innovations, or licensing IP. However, challenges remain. Most MSMEs remain unaware that IP can be utilised as a source of finance, another challenge is that India does not have a well-defined legal structure of utilizing IP as a security for a loan, and the banks and other financial institutions are generally unwilling to treat IP as a reliable asset for financing.

iv. Role of International and Industry Collaboration

Besides the domestic government programmes, the international and industry-based partnerships are very important in enhancing the intellectual property ecosystem in India, especially among startups and MSMEs. "One of them is the MoU signed by WIPO and FICCI that resulted in the establishment of the FICCI- WIPO IP Business Center.[33]"

The partnership has achieved several important results in terms of supporting MSMEs and startups. It has also contributed to capacity building through the provision of training programmes to explain the importance of intellectual property and how it could be utilized to develop business. It also offers strategic IP advisory services, which assist small businesses and startups on how to secure their ideas, inventions, and brands in order to align with their business objectives and assist them to attract investors. Moreover, the partnership provides access to WIPO global IP tools and resources, which enable business to make informed decisions not only to the Indian market but also to the international markets. Awareness

[32] World Intellectual Property Organization (WIPO), Intellectual Property Finance, WIPO, https://www.wipo.int/en/web/ip-financing (last visited Jan. 05, 2026).
[33] WIPO, *WIPO and FICCI Sign MoU to Boost IP Ecosystem for Indian Startups and MSMEs* (Apr. 8, 2025), https://www.wipo.int/en/web/business/w/news/2025/wipo-and-ficci-sign-mou-to-boost-ip-ecosystem-for-indian-startups-and-msmes/.

programs are also conducted to inform startups, MSMEs and enforcement authorities about protecting IP and commercial use.

Intellectual property investment at an early stage gives startups and MSMEs the incentive to consider their ideas, inventions, and brands as valuable business assets. This builds investor confidence and enhances commercialisation and licensing. Indian businesses can be more competitive internationally by implementing international IP best practices. All in all, these strategic alliances can be used to make intellectual property not only a legal obligation but also a significant investment capable of facilitating innovation, business development, and new market access.

Comparative Analysis of IP Investment

The question of IP being able to draw investment is determined by the extent to which the legal system acknowledges IP as an object which can be owned, transferred and used as security. This chapter examines the support of IP-based investment by some foreign countries via legal framework, and subsequent comparisons it with the Indian legal framework.

i. United States:

The investment on intellectual property is assisted by the ordinary commercial law in the United States, rather than an independent or special IP financing law. "The primary legislation is the Article 9 of the Uniform Commercial Code (UCC), which concerns the secured loans. In Article 9, the intellectual property is considered as a kind of general intangible, i.e. it can be put up as a security for a loan."[34]

It is significant as it enables lenders with the ability to secure patents, trademarks and copyrights like they would secure a physical property. In case a borrower does not pay the loan, the law permits the lender to use this security to recover the IP value. The position of the IP as a strong element of the law in the United States is indicated by the level of investment in intangible assets. "In 2024, the United States spent around USD 4.7 trillion on intangibles

[34] Uniform Commercial Code: Article 9, Uniform Law Commission, https://www.uniformlaws.org/acts/ucc (last visited Jan. 9, 2026).

assets, the intangible assets in question are the research and development, the software, data, branding, and organisational knowledge. It was the maximum rate of such investment in the world."[35]

This number points at the fact that viewing IP as a stable and enforceable asset as provided in the law promotes massive investments.[36] It further demonstrates that IP investment is not exclusive to big companies; the same legal framework applies to startups and other small businesses whose major impact is based on innovation.

ii. European Union (EU):

There is no distinct law in the EU that discusses the topic of investment or financing of intellectual property. Rather, it assists in IP investment using the current IP laws and business policies. The common laws of common market like the EU trade mark regulation and European patent convention guard IP rights in the EU. Such laws ensure that IP is recognised and has protection in member countries.[37]

The EU considers intellectual property to be an intangible asset to be used in investment purposes. That is why it is possible to reflect IP in the balance sheet of a company and use it when giving loans or financing. EU agencies such as EU Intellectual Property Office (EUIPO) assist companies in this by providing easy-to-follow information on the IP valuation and also promoting IP audits, particularly among small firms.[38]

Even though the banks are not obliged by law to accept IP as collateral, the EU funding programmes demand banks to consider intangible assets when evaluating SMEs. Due to this, IP comes into importance to investment decisions indirectly. This strategy has led to big investment in intangible assets. "In the year 2024, countries such as France (approximately

[35] World Intellectual Property Organization, *World Intangible Investment Highlights 2025* fig. 11 (2025).
[36] *Investment in intangible assets grows four times faster than tangible investment and consolidates itself as a driving force behind the global economy*, PONS IP (July 10, 2025), https://ponsip.com/en/ip-news/news/investment-in-intangible-assets-grows-four-times-faster-than-tangible-investment-and-consolidates-itself-as-a-driving-force-behind-the-global-economy/.
[37] *Why You Should Invest in IP: Insights from the EPO and EUIPO's 2025 Reports*, *IP in Italia* (Jan. 2025), https://www.ipinitalia.com/euipo/why-you-should-invest-in-ip-insights-from-the-epo-and-euipos-2025-reports/ (last visited Jan. 09, 2026).
[38] *Fundamentals of EU IP Law*, IP-PorTal, https://www.ippt.eu/legal-texts/fundamentals-eu-ip-law/fundamentals-eu-ip-law-1, (last visited Jan. 9, 2026).

USD 631 billion) and Germany (approximately USD 602 billion) were the leading countries on investment in the intangible assets across the world."[39]

iii. China:

China pursues an authoritarian manner of investment of intellectual property. Although the IP rights are regulated by the laws like the Patent Law and Trademark Law, the investment and financing of IP is primarily backed by the government regulations, administrative guidelines and policy directions which are issued by the authorities including the China National Intellectual Property Administration (CNIPA).

One of the main peculiarities of the Chinese system is that the law allows pledging the IP rights, i.e. the patents and trademarks are legally allowed to serve as the security to get a loan. This is not left to market choice all the way. Consequently, funding based on IP assets is available even to small and medium enterprises.[40]

Valuation and IP audits in this system is not an optional business tool but a realistic legal obligation. Enterprises are required to demonstrate evident ownership, registration, and commercial relevance of their IP in order to have IP-backed loans, subsidies and incentives.[41] This renders IP audits of legal importance because it has a direct impact on whether one is eligible to be financed and supported by the government.

"The IP-backed lending in China stood at about CNY 486.9 billion (about USD 67.2 billion) to 2022. This was further boosted in 2023 reaching approximately CNY 495 billion (approximately USD 68.3 billion) during the first three quarters only with a rapid growth rate per year."[42]

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[39] World Intellectual Property Organization & Luiss Business School, *World Intangible Investment Highlights 2025* (2025), https://www.wipo.int/web-publications/world-intangible-investment-highlights-2025/en/world-intangible-investment-highlights-2025.html.

[40] M. M. Berrell & J. Wrathall, Changing Attitudes to Intellectual Property Rights in China: The Nexus Between Chinese Culture and the Rule of Law, in *Proceedings of the 15th Annual Conference of the Association for Chinese Economic Studies Australia* (ACESA, Melbourne, VIC 2003).

[41] Millie Ward, *China's Evolving IP Market Is Attracting Foreign Investment, but Increased Competition Poses Threats*, World Trademark Review, Sept. 18, 2024, https://www.worldtrademarkreview.com/article/chinas-evolving-ip-market-attracting-foreign-investment-increased-competition-poses-threats.

[42] *China's IP-Backed Financing Landscape (WIPO Report)*, Markables (Mar. 28, 2025), https://www.markables.net/chinas-ip-backed-financing-landscape-wipo-report.

Nevertheless, there are also certain risks shown by the approach of China. Although the IP registrations have grown at an alarming rate, quality has been questioned as to quantity. Poor IP makes its usefulness in licensing, enforcement and long-term investment weak. This demonstrates that legal compulsion is not sufficient, but meaningful IP audits and credible valuation are also paramount.

iv. Comparative Position of India on IP Investment:

The IP investment framework in India is not well developed as compared to the United States, European Union and China. In the U.S., commercial law of IP is the collateral, thus there is a practice of lending based on IP. The EU makes IP part of financing and accounting regulations of SMEs, which gives importance to the intangible assets in the considerations of the financing decision. China follows a state supported system in which IP audits and valuation are significantly correlated with access to finance.

India on the other hand does not have a unified IP financing system. Despite the robust protection laws on IP, it is not widely accepted as security and there is no standard of valuation and IP audits are largely compliance oriented. This complicates Indian MSMEs and startups to leverage their IP to raise money, expand and compete globally.

However, "according to the data of the 2011-2022, India has increased its investment on intangible assets (patents, software, research and development, brands, designs) at an average of 7 percent annually, more than the US, France or Sweden. This is partly since India began with lower intangible capital thus it is catching up fast."[43]

Though the laws that safeguard intellectual property are strong in India, there are several challenges in the system. There is no standard way for valuing IP so this makes it difficult for lenders and investors to determine the true value of the patents, trademarks or any other intellectual property. Many small businesses also do not know that their intellectual property can be utilized to obtain investments or loans. In India, IP audits are primarily performed to achieve legal or compliance requirements and rarely help businesses to raise funds. The

[43] World Intellectual Property Organization & Luiss Business School, World Intangible Investment Highlights 2025 13 (2025), https://www.wipo.int/web-publications/world-intangible-investment-highlights-2025/en/world-intangible-investment-highlights-2025.html *(showing India's rapid growth in intangible investment in Figure 13).*

financial bodies and banks tend to be hesitant to offer loans on IP due to the risks and the uncertainty of the value. In addition, IP financing programs are primarily government driven and very few individuals in the private sector participate. These loopholes make it challenging for Indian MSMEs and startups to raise capital, grow their businesses, and compete on an international level.

IP Audit as a Tool for Strengthening IP Investment

An intellectual property audit is a formal assessment and overview of all the intellectual property assets of a business which a business has owned, utilized, licensed, or requires to acquire in future. It does not merely include the listing of patents, trademarks, copyrights, and trade secrets of a company, but evaluates their legal position, ownership, protection practices, and business applicability.[44] An IP audit is aimed at knowing, recording and realising the full potential of the intangible assets in an organised manner.

The main tasks of the audit process include determining registered and unregistered IP, its ownership and validity, review of protection such as registration and confidentiality practices, review of relevant contracts, and identification of legal or commercial risks such as infringement or protection lapses.[45]From an investment perspective, IP audit offers certainty and clarity. It establishes the fact that the business has a strong ownership and control of its IP properties and that the rights are legally enforceable. This minimizes uncertainty and legal risk, which is a major concern to investors during the evaluation of a business.[46]

In the case of MSMEs and startups, IP audit is even more important. These businesses tend to develop extremely useful IP like product designs, technical processes, brand identities and proprietary know-how, yet face lack of structured mechanisms to manage it. An IP audit helps identify such hidden or underutilised IP and brings them into an organised framework. Overall, an IP audit serves as a strategic tool and not a compliance exercise. By ensuring clarity of

[44] Samridhi Dhir, *IP Audits for Indian Businesses– Importance and Process*, Kanakkupillai (Sept. 4, 2025), https://www.kanakkupillai.com/learn/ip-audits-for-indian-businesses/.
[45] The Essential Focus Areas of an Intellectual Property Audit, *TheLaw.Institute*, https://thelaw.institute/management-of-iprs/essential-focus-areas-intellectual-property-audit/ (last visited Jan. 10, 2026).
[46] World Intellectual Property Organization (WIPO), *Uncovering IP Risks and Potential: IP Audit*, https://www.wipo.int/en/web/business/ip-audit (last visited Jan. 9, 2026).

ownership, protection adequacy, and risk management it enhances the investment readiness and long-term sustainability of businesses.[47]

By discovering and protecting intangible assets, an IP audit build a level of trust in investors, less risk, and long-term growth. No matter whether a business needs investment, extending its operations or want to enter new markets, an IP audit, properly conducted would mean a more improved control over intellectual property and future prosperity.

Conclusion & Suggestions

With the increasing reliance of economies on ideas and innovation, we should look beyond physical assets and recognize the true worth of intellectual property rights. Unless this right can be exercised practically and financially, legal protection is not enough to allow business to grow. There are quite a number of small businesses and start-ups that have useful ideas and innovations but they are unable to enjoy their full benefits due to the lack of properly identifying and managing their intellectual assets.

In order to make intellectual property more useful, there must be a clear system that helps businesses understand what they own and how it can be used. Instruments like IP audits could introduce clarity, reduce uncertainty, and make the intellectual assets more reliable in the eyes of investors and lenders. When Intellectual property correctly recognized and managed, it can help in the growth of business, promote innovation, and in the growth of the economy in a significant manner.

Based on the above discussion, some suggestions are proposed. Firstly, the training of IP should be based on how it is applied in the business world and not just on legal concepts. Small business owners and entrepreneurs must know how IP can make money, attract investors and gain competitive advantage in the market. The issues that should be discussed in the training programs should include licensing, branding, and commercial exploitation of IP using practical business examples. This assists the companies to view IP as a quite useful economic instrument rather than a legal obligation.

[47] Bhavpreet Singh Soni**,** *The Founder's Blueprint: How an IP Audit Secures Your Startup's Future*, The IP Press (Aug. 28, 2025), https://www.theippress.com/2025/08/28/the-founders-blueprint-how-an-ip-audit-secures-your-startups-future/ (last visited Jan 12, 2026).

Secondly, IP audits should not be carried out in the same manner for all businesses. A tiered approach is more feasible and real. Big companies tend to have large portfolios of intellectual property rights and adequate legal and financial assets; thus, they can audit their IP annually or even in 6 months. This is already practiced by multinational companies, and it assists them to effectively monitor, safeguard and commercially exploit their IP on a regular basis.

On the other hand, the MSMEs and start-ups possess less resources and IP assets. In their case, regular and thorough audits can be expensive and unwarranted. Accordingly, the IP audits of such business must be less complicated and performed once in every two or three years, or at some significant business events like fund-raising, expansion, or signing licensing agreements. This balanced approach ensures that IP is properly managed without placing huge financial or administrative burden on small businesses.

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From Rights in Rem to Rights in Personam: Remedies Against Infringement of IP Rights Under the Law of Torts and Arbitration

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Abstract

This paper examines the legal protection of intellectual property (IP) and the evolving interface between *rights in rem* and *rights in personam* within tort law and arbitration. IP Rights safeguard intangible assets such as patents, trademarks and copyrights, enabling creators to seek redress for infringement. The study outlines how IP protection has expanded from narrow statutory frameworks to encompass broader common law principles. It highlights challenges arising from the overlap of tort, contract, and arbitration regimes, and analyses available civil remedies under tort law (e.g. injunctions, damages, search orders and accounts of profits) that reflect the *erga omnes* character of IP rights. The paper also explores the growing role of arbitration in resolving IP disputes, particularly concerning licensing and commercial exploitation and discusses issues of arbitrability through landmark cases. Simultaneously, an international comparison of arbitration frameworks such as WIPO's system and laws in the US, UK and Switzerland, provides a global perspective. Concluding, the study calls for clearer Indian legislative and judicial guidance to integrate IP enforcement with contemporary dispute resolution while preserving the public nature of IP rights.

Keywords: intellectual property (IP), Torts law, Arbitration, the Jan Vishwas Act ('JV Act")

Introduction

IP such as patents, trademarks, copyrights, and designs is essential contributor to commercial value. These play an important role in forming the base of many innovative companies like pharmaceuticals, entertainment, publishing, and Information technology industries within

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today's economy.[2] Historically, IP was seen as a state's ownership, a legal monopoly granted by the state that functioned as a *right in rem* or a right against the world at large.[3] Now, the focus of IP enforcement moved toward the recognition of *rights in personam* or interests protected only against particular parties, which has frequently resolved through the law of torts and private arbitration. However, a conceptual change has been required due to the growth of complex business transactions, and the prevalence of Multinational Licensing Agreements and Cross-Border Technology Transfer.[4]

The traditional legislative frameworks in India embodied in the Copyright Act, 1957,[5] the Patents Act, 1970,[6] and the Trade Marks Act, 1999,[7] offer codified remedies against infringement but they do not comprehensively outline the scope of enforcement mechanisms. An extensive array of common law tort doctrines continues to mould and reinforce statutory enforcement particularly where legislative remedies are silent, insufficient or where similar tort doctrines previously addressed unlawful intervention with intangible property.

This second part of the paper examines the complex transition from the rigid concept of *rights in rem* to the more flexible and party-centric framework of *rights in personam*. Additionally, the third part investigates the use of statutory tort remedies for the enforcement of IP infringements and the analogy between the rights *in rem* and *personam* model, which affects the arbitrability of IP disputes in India and other jurisdictions. The fourth part deals with the most recent amendments to the IP system in terms of how the Jan Vishwas (Amendment of Provisions) Act, 2023[8] has changed the methods of enforcement of IP in India.

This final part of the paper will explore the evolving landscape of IP remedies because of advancements in technology and commerce and how all parties can address these issues to create a more efficient and effective means of supporting and facilitating innovation and creativity for creators and businesses alike and protecting and preserving the underlying integrity of the existing IP System.

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[2] Shruti Khanijow and Sugandha Nayak, *In Court or No Court: Efficacy of Arbitration in IP Dispute Resolution,* II NLIU LR 141, 141-142 (2011).
[3] Nidhisha Garg, *Arguing for the Arbitrability of IPR Disputes,* 10 IJIPL 33, 39-40 (2019).
[4] Swapnil Mukherjee, *The Impact of Arbitration on Resolving IPR Licensing and Contract Disputes in India: A Critical Legal Analysis*, III IP BULLETIN 52, 53-54 (2022).
[5] The Copyright Act, 1957, No. 14 of 1957 (India).
[6] The Patents Act, No. 39 of 1970 (India).
[7] The Trade Marks Act, No. 47 of 1999 (India).
[8] Jan Vishwas (Amendment of Provisions) Act, No. 18 of 2023 (India).

Doctrinal Framework of Rights in Rem and in Personam

The distinction between actions *in rem* and those *in personam* is highly contentious because there are many ambiguities in the classification for the purpose of determining arbitrability. The historical roots of this distinction may be easily traced back to Roman law, which separated property (*in rem*) from personal rights (*in personam*). This is important to consider when examining and resolving disputes between intellectual property owners and those who engage in infringement of those rights, as it gives further perspective and definition to these rights.[9] IP has characteristics of both rights *in rem* and rights *in personam*.

For instance, IP laws such as patents, trademarks and copyrights are considered to be *rights in rem*_because they provide a legal right to prevent people from using or copying without the creator's permission. Even though it is intangible, the registration of a trademark or patent creates a legally binding exclusivity that restricts the public from unauthorised use. The violation of such right is an infringement against the ownership interest itself and is not limited to a specific defendant.

This universality results in disputes concerning public monopolies, rectification of registration and challenges to the validity of IP rights being reserved for public courts and considered inappropriate for private as highlighted in contemporary legal commentary. On the contrary, *rights in personam* are restricted between specific parties and usually result from contracts, licenses or clearly apparent tortious behaviour. It arises from a violation of contract.[10] For example, A licensing contract imposes obligations that are enforceable against the licensee but not against the general public by granting authorisation to utilise an intellectual property right.

The enforcement against a specific infringement relies on personal accountability rather than the status of the IP right itself, although the fundamental right is still *in rem*. This distinction serves as the legal basis for arbitrability in IP disputes, as arbitration is intrinsically consensual and restricted to addressing inter partes rights. Historically, common law torts played an important role in protecting intangible interests prior to the development of modern statutory IP laws. In instances where statutory protection is insufficient, weak or where a claim of

[9] 12, P. J. Fitzgerald (ed.), SALMOND ON JURISPRUDENCE, 237 (Universal Law Publishing Co. Pvt. Ltd. 2016).
[10] Badrinath Srinivasan, *Arbitrability of Intellectual Property Disputes in India : A Critique,* VI NLS Bus L Rev 30, 34-35 (2020).

personal injury exists, tort law continues to hold conceptual significance for determining available remedies for acts of infringement against IP.

i. Defamation

Defamation refers to an injury to the reputation of a person. It is one of the torts that explains how intellectual property addresses issues and rights that differ from private rights. The court in the case law ***Bindrim v. Mitchell,***[11] examined whether a literary work protected under the Copyright Act, 1957 can constitute libel due to a fictitious portrayal of actual persons in the work. It established the "reasonable reader" test despite of the work's fictional nature and held that liability might occur if a person with knowledge of the facts surrounding it could construe the fictional depiction as belonging to the plaintiff. Instead of interfering with copyright ownership, the remedy was *in personam* which as intended to restore damages to one's professional reputation. This case shows that although copyright is a right *in rem*, its use may be limited in situations when it violates personal rights protected under tort law.

ii. Invasion of Privacy

Similar restrictions on the use of IP rights are highlighted by the tort of invasion of privacy. In ***Dresbach v. Doubleday & Co.,***[12] the publication of a narrative work: *Life for Death* was challenged for exposing personal information that were no longer relevant to the public concern. The court in *Dresbach* noted that this tort is divided into four parts: unjustified intrusion upon privacy, publicity provided to private life, misappropriation of name or identity and presenting people in a false light. It also recognised that the privacy tort provides protection for emotional and public interests as opposed to defamation. The copyright may allow the publication of content but it may restrict uses of the published work that violate a person's legitimate expectations of privacy. Both privacy and use of a published work are personal concepts that require maintaining a balance between one's right to free expression and personal autonomy.[13]

[11] *Bindrim v. Mitchell*, 444 U.S. 984 (1979).
[12] *Dresbach v. Doubleday & Co,* 518 F. Supp. 1285 (1981).
[13] Anupam Singh, *Intellectual Property rights an Overview, and influence of Torts on it*, LAWFOYER (Jan 10, 2026, 11:00 A.M.), https://lawfoyer.in/intellectual-property-rights/.

iii. Passing Off

The transition from *rem* to *personam* is perhaps most historically established in the common law tort of passing off. It was first explicitly defined in ***Perry v. Truefitt***[14]**,** where the court condemned dishonest behaviour that disguised the origin of products while rejecting the idea of a proprietary right over a trade name.[15]This ruling established the conventional trinity of goodwill, misrepresentation and damage in passing off.

It is an *in personam* action because it results from the specific misleading activities of one trader against another, regardless of any statutory approval. It is particularly arbitrable in cases where parties have consented to private dispute resolution, and it continues to play a vital role in countries like India for unregistered trademarks.

iv. Misappropriation

The protection of personal identity as a private interest was further expanded in ***Cohen v. Herbal Concepts Inc.***[16]In this case, the unauthorised commercial use of a photograph resulted in liability even in the absence of facial identification. The court emphasised that the law protects a person's identity rather than just a facial portrait. This tortious remedy safeguards personality and publicity rights distinct from copyright or trademark but increasingly relevant in merchandising and endorsement disputes. Such assertions support the philosophical idea that personal remedies may be justified since property may encompass the aspects of personality.

v. Joint Tortfeasors and Contributory Liability

Several parties are frequently involved in the enforcement of IP rights by utilising the concepts of joint tortfeasorship. The UK Supreme Court established the standard for determining joint liability in tort cases in ***Sea Shepherd UK v. Fish & Fish.*** [17]This principle of joint tortfeasorship refers to an infringement of IP where there exists joint liability for any infringement, critical in IP infringement involving corporations, directors, and facilitators.

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[14] *Perry v. Truefitt,* (1842) 49 E.R. 749.
[15] WENDY J. GORDON, INTELLECTUAL PROPERTY LAW , in Oxford Handbook of Legal Studies 617 (Peter Cane & Mark Tushnet ed., 2003, available at: https://scholarship.law.bu.edu/faculty_scholarship/1916.
[16] *Cohen v. Herbal Concepts Inc.,* (1948) 482 N.Y.S.2d 457.
[17] *Sea Shepherd UK v. Fish & Fish,* (2015) 2 WLR 694.

Individuals may still be held personally liable for knowing aiding or directing infringement, even while responsibility of corporations is controlled by attribution principles like the "directing mind" test outlined in ***Tesco Supermarkets Ltd v. Nattrass.***[18]The company will be held vicariously accountable if employees commit a civil wrong while acting in the course of their employment, the corporation will be vicarious liable. In some situations, a business may be held principally accountable for actions or omissions of senior management personnel that are attributed to the corporation.[19]These individuals are perceived as being part of the corporation's directing mind and will rather than acting on behalf of the company. These doctrines highlights that IP remedies often focus on behaviour (*personam*) instead of just safeguarding the private *res*.

In sum, IP rights are primarily rights *in rem* and their enforcement through tort law frequently takes the form of rights *in personam*. This duality is central to determining remedies, responsibility and arbitrability. Courts continue to strike a balance between private responsibilities and public monopolies, assuring that the use of exclusive rights does not unfairly violate personal, reputational or commercial interests. Therefore, arbitration finds validity in settling individual disputed resulting from the abuse of IP rights rather than determining the existence of such rights.

Remedies Against IP Infringement Under Tort Law

Previously, IP rights were codified in modern statutes and infringements were primarily regarded as harm done to intangible property under the general body of tort law. The definition of the term 'property' and its different characteristics were extensively discussed. The Supreme Court recognised patents and copyrights as *rights in* rem while classifying property into movable and immovable property and exemplifying their different aspects.

In the case of ***Common Cause v. Union of India,***[20] the Supreme Court (SC) discussed tortious responsibility and defined "tort" as a breach of a right in rem. This connection has been upheld by contemporary Indian courts which frequently interpret IP infringement as a type of property infringement that demands equitable remedies. The primary purposes of these remedies are to

[18] *Tesco Supermarkets Ltd. v. Nattrass*, (1971) UKHL 1.
[19] KANGS SOLICITORS, https://www.kangssolicitors.co.uk/news-insights/intellectual-property-infringement/ (last visited Jan. 8, 2026).
[20] *Common Cause v. Union of India*, 2018 (5) SCC 1.

compensate the IP owner for any losses that have occurred and to prevent further misuse of the IP. An individual can obtain relief from such IP infringements under tort law, statutory laws or under alternative dispute resolution such as arbitration. In India, these remedies consist of both statutory-based doctrines and common law doctrines, with a focus placed upon obtaining injunctions, monetary damages and ancillary remedies through trial courts or arbitral tribunals.

A critical component of tort-based remedies in IP is the "Fair Use" or "Fair Dealing" defence. This doctrine acknowledges that the exclusive monopoly granted to an intellectual property owner is not absolute and must give way to certain social and educational goals. According to tort law, damages are compensatory since copyright infringement is tortious in nature. The fair use argument in copyright law permits that unauthorised use of works for purposes such as criticism, news reporting, teaching and research. IP infringement is principally enforceable as a wrong under tort law that gives rise to remedies intended to prevent, discourage and compensate. The most often used remedies are civil ones which serve as the foundation for enforcement. However, courts have both legal and equitable authority to customise remedy based on the nature and severity of violation.

i. Injunctive Relief

Injunctions are the main remedy at the initial phase of litigation in order to prevent ongoing or impending infringement. An interlocutory injunction[21] can be granted ex parte or after notice which prohibits the violator from carrying out the wrongful conduct during the proceedings are pending. A permanent injunction may be granted following a substantive trial which requires the defendant to halt the unlawful conduct permanently. These orders prevent irreparable damage that cannot only be remedied by monetary compensation but protecting the rights *in rem* that intellectual property rights embody.[22]

The concept of injunctions is expanded by equitable remedies such as Mareva and Anton Piller orders. The Mareva injunction freezes the infringer's assets to prevent dissipation before judgment whereas the Anton Piller order permits the plaintiff to enter the defendant's property

[21] IPLEADERS, https://blog.ipleaders.in/civil-remedies-copyright-infringement/ (last visited Jan. 9, 2026).
[22] Louis Tambaro, *Stop! … In the Name of Injunctions: The Benefits of Seeking Temporary Restraints and Injunctive Relief in Intellectual Property Disputes and Measures for Litigation Avoidance,* OFFIT KURMAN (Jan. 9, 2026, 3:00 P.M.), available at: https://offit.gjassets.com/content/uploads/pdf/injunctive-relief-ip-disputes.pdf.

for search and seize infringing materials and evidence without prior notice to preserve evidence that could have been destroyed.[23]

ii. Damages and Account of Profits

A plaintiff can seek two forms of monetary relief (damages or an account of profits) for civil infringements. Actual damages are the amount of compensation paid to the rights holder for any legal losses, whereas the accounting of profits requires the infringer to give up any unlawful profits which the infringer was aware of at the time of infringement, made from the illegal use of the protected IP. In addition to damages and an accounting of profits, the courts have the authority to require the infringer to return or destroy any infringing items or materials and to reimburse the plaintiff for all reasonable attorney fees incurred in connection with the lawsuit. The plaintiff may request either or both forms of civil remedy, i.e., injunctions or monetary damages based on the circumstances such as whether they can show actual loss by producing evidence of the infringer's profit margin over time. Additionally, depending on the severity of the wilful infringement and the defendant's conduct, some cases may also result in an award of statutory or punitive damages.

iii. Passing Off

The tort of passing off at common law is a situation where the actions of one party have created an injury to the goodwill of the other party by presenting an incorrect representation of its products or services as those of the other. In the course of a passing off action, the court may grant injunctive relief or monetary damages to the prior user of the mark to prevent the continued use of misleading representations that will cause confusion and deception in the market. Even with the existence of legislation, the common law tort principles continue to fill in legislative gaps. It remains particularly relevant for unregistered IP rights such as trademarks, thereby reinforcing the importance of tort principles within the overall framework for IP enforcement.[24]

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[23] Kern Alexander, *The Mareva Injunction and Anton Piller Order: The Nuclear Weapons of English Commercial Litigation*, XI FJIL 488, 489-492 (1997).
[24] Peter Charleton and Sinead Reilly, *Passing Off: An Uncertain Remedy*, paper delivered at Fordham Intellectual Property Conference, Cambridge University, 5-7 (2015), available at: https://fordhamipinstitute.com/wp-content/uploads/2015/08/7B-4-Charleton-Peter-PDF.pdf.

iv. Criminal and Administrative Remedies

Copyright and trademarks are two examples of statutory frameworks that provide remedies for deliberate or commercial scale infringement. Such penalties are found in Section 63 of the Copyright Act[25] and Section 103 of the Trademark Act.[26] Unlike tort law, if a violation occurs, it may result in imprisonment and fines which represent the punitive intentions of the criminal justice system.[27] Civil law provides remedies for private wrongs.

Many legislative acts in the United States contain *fair use* provisions to allow a balance between the interests of the owner of an exclusive right and the public. The case of ***Harper & Row Publishers v. Nation Enterprises***[28] illustrates how the fair use doctrine serves as an equitable defence to balance the author's right to protect his or her work against society's interest in access to information. While U.S. cases are not binding on the courts of India, they provide significant insight into how equitable defences operate under statutory frameworks. The application of these doctrines is consistent with the principles of tort law because it limits the exclusive rights by the rights of others such as free speech and the right to develop innovative products and services.

Arbitrability of IP Disputes

Although there is still a lot of uncertainty surrounding alternative dispute resolution (ADR), arbitration has proven to be a popular method for resolving IP issues, particularly in commercial agreements between parties who expect to have disputes involving cross-border or specialised technical issues. It resolves through its ability to provide both parties with a voluntary and flexible way of resolving their differences. In short, it provides several advantages over litigation including the ability to maintain confidentiality, exercise autonomy with regard to procedure, offer flexibility with respect to the time and place of the hearing, provide for the use of technical experts and facilitate the international enforcement of IP disputes. Furthermore, both Section 17 of the Arbitration and Conciliation Act[29] and the international arbitration

[25] The Copyright Act, 1957 § 63 (India) (Act No. 14 of 1957, June 4, 1957).
[26] The Trade Marks Act, 1999 § 103 (India) (Act No. 47 of 1999).
[27] BISWAJIT SARKAR ADVOCATES- IP ATTORNEYS, https://www.biswajitsarkar.com/blog/remedies-for-copyright-infringement.html (last visited Jan. 12, 2016).
[28] *Harper & Row Publishers v. Nation Enterprises*, 471 U.S. 539 (1985).
[29] The Arbitration and Conciliation Act, 1996 § 17 (India) (Act No. 26 of 1996, Aug. 16, 1996)

frameworks like UNCITRAL Model Law,[30] empower arbitral tribunals with the same authority to grant interim measures as common law courts. For example, the authority to order a party to refrain from taking action that would disrupt the status quo, to preserve assets or to protect evidence from being destroyed or lost before the hearing.

Such interim relief is especially beneficial when there is a continuing infringement that poses a significant chance of irreparable harm before the final decision is made[31]. It is also possible to obtain *final* as well as *permanent relief* from arbitral tribunals, similar to court orders such as monetary compensation, declarations or enforcement of contractual obligations. However, if an arbitrator wishes to impose an interim or final order, he or she often must seek court assistance, thereby showing the relationship between judicial and arbitral relief. Furthermore, the parties may limit such interim and permanent reliefs from their respective tribunals by the terms of their respective agreements and by the restrictions of domestic arbitrability laws.

Disputes related to IP rights create unique difficulties for courts because they have implications for both private parties and the general public. Many IP rights in India are still governed by their traditional forms (*in rem*), which means they can be issued by judicial bodies and can only be enforced through national courts[32]. A comprehensive analysis of the laws concerning when an arbitral tribunal has the authority to exercise jurisdiction and when the case must be transferred to public courts is necessary since the arbitrability of IP disputes in India is still a contentious and developing area of Indian law.

The issue at the core of this debate is the conflicting relationship between the statutory IP rights of *in rem* nature and arbitration agreements of *in personam* nature. IP rights such as patents, trademarks and copyrights are statutory monopolies granted by the state with an *erga omnes* effect which is enforceable against the world at large. This public aspect has traditionally anchored such rights within court jurisdiction[33]. On the other hand, Arbitration is dependent on party autonomy that binds only the parties to the arbitration agreement and has no direct impact on the rights of third parties. Indian courts have struggled with these contours, evolving a

[30] UNCITRAL Model Law on International Commercial Arbitration art. 17 (1985) (as amended 2006), https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/19-09955_e_ebook.pdf (last visited Jan.11, 2026)
[31] Shruti Khanijow and Sugandha Nayak, *In Court or No Court: Efficacy of Arbitration in IP Dispute Resolution*, 2 NLIU LR 141, 153 (2011).
[32] Nidhisha, supranote 2, at 2..
[33] Job Michael Mathew, *Arbitrability of Intellectual Property Disputes in India*, 2 JIPL 1, 6 (2017).

doctrine that aims to strike a compromise between the protection of public legal interests and effective dispute resolution.

Statutory frameworks for arbitrability in Indian law

In India, there is no straightforward answer to the issue of arbitrability of IP disputes from the applicable statutory law or the juridical decisions. A look into the relevant provisions of the major IP legislations mainly Section 104 of the Patents Act, 1970[34], Section 134 of the Trademarks Act, 1999[35] and Section 55 of the Indian Copyright Act, 1957 read with Section 62[36] which suggest that IP was traditionally considered and treated only as a right in rem. Therefore, the aforesaid provisions do not provide a clear answer to the conundrum of the arbitrability of IP disputes[37].

Likewise, the Arbitration and Conciliation Act, 1996[38], does not expressly define what disputes are non-arbitrable. Consequently, Indian jurisprudence has developed principles of arbitrability through judicial interpretation to identify whether a particular subject matter falls within the competence of an arbitral tribunal or must be adjudicated by courts. Under this framework, *rights in rem* are generally considered unsuitable for private arbitration whereas **rights in personam** which arises from contractual or personal obligations, fall within the ambit of arbitrable subject matter. **Section 34(2)(b)** of the Arbitration Act[39] permits setting aside an award if the subject matter is not capable of settlement by arbitration, a provision that effectively empowers courts to police the boundaries of arbitral jurisdiction.

In the case of ***Booz Allen & Hamilton Inc. v. SBI Home Finance Ltd. (2011)[40],***the SC ruled that only the parties to a contractual dispute have the ability to arbitrate their disputes, and the courts must hear all disputes based on a third-party claim or right. It also clarified that subordinate rights in personam arising from rights in rem have always been considered to be arbitrable. In addition to defining arbitrability by the legal concept of personal against public

[34] The Patents Act, 1970 § 104 (India) (Act No. 39 of 1970).
[35] The Trade Marks Act, 1999 § 134 (India) (Act No. 47 of 1999).
[36] The Copyright Act, 1957 § 55 and 62 (India) (Act No. 14 of 1957, June 4, 1957).
[37] Aakash Laad and Mayank Gaurav, *Arbitrating IPR and Competition Law Disputes in India: Issues, Scope and Challenges*, 6 IJLPP 26, 29-30 (2019).
[38] The Arbitration and Conciliation Act, 1996, No. 26 of 1996, Aug. 22, 1996 (India).
[39] *Id,*. § 34(2)(b).
[40] *Booz Allen and Hamilton Inc. v. SBI Home Finance Ltd*., (2011) 5 SCC 532, para 28.

right, this case set the basis for many IP cases in the future as to their eligibility for arbitration based on the contract under which the IP rights were created.

i. The fourfold test of Vidya Drolia[41]

Soon after Booz Allen a similar approach was adopted by the Supreme Court of India in ***Vidya Drolia v. Durga Trading Corporation***[42] which stated that to properly determine whether a dispute is capable of being arbitrated, a **fourfold test** must be satisfied to establish that there is no issue for arbitration if:

1. The first test applies when a dispute arises or relates to something that would normally require an in rem action, and therefore does not directly involve a personal relationship, unless it pertains to an individual right that arises out of an *in rem* relationship.
2. The second test is where a third party would be impacted by the Court's decision or has a common legal interest in the subject matter of the dispute, thus necessitating a consolidated hearing before one court.
3. The third test is where the nature of the dispute involves the exercise of the state's inalienable sovereign powers or public interest.
4. The fourth test is where the statute expressly or impliedly prohibits submission of a matter to arbitration.

The significance of the test is that it demonstrates how the analytic framework has nuanced the distinction previously made between actions considered *in rem* and those considered *in personam*. It determines whether a matter is arbitrable more dependent on the ultimate effect of the award than on the statutory definition of the type of right involved. In summary, though a certain right categorised as of an *in personam* nature, it does not follow that such an action is inarbitrable.[43] Rather, the analysis must take into consideration whether an arbitral award would be binding or in some other way affect anyone who is not an actual party to the arbitration. Thus, it involves the furtherance of the public interest or statutory requirement or injure any of the state or public interests.

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[41] Pallavi Rao & Robin Grover, *Arbitrability of IP Disputes – A Step Forward?*, CYRIL AMARCHAND MANGALDAS (Jan. 11, 2026, 7:00 P.M.), https://disputeresolution.cyrilamarchandblogs.com/2023/08/arbitrability-of-ip-disputes-a-step-forward/#.
[42] *Vidya Drolia v. Durga Trading Corporation,* (2021) 2 SCC 1.
[43] *Id* at 11.

The fact that the public benefits from the use of IP rights as well as the state's conferral of them creates issues of uncertainty with respect to these rights under his/her test. IPR include the key principles regarding the granting, revocation, validity and ownership of it as these rights have implications for every party involved. Thus, the core principles related to the determination of these rights need to remain within the power of the common law courts. Conversely, commercial or contractual disputes between consenting parties are more suitable for commercial arbitration. This approach rejects strict limitations based upon arbitrary classifications, emphasising functional arbitrability over mechanical categorisation.

Judicial differences on IP arbitrability

The Supreme Court has not made a definitive statement regarding disputes concerning intellectual property rights. Although it has ruled on the types of IPR that could be arbitrable by categorising them into rights *in personam* and *in rem*, there is still inconsistency in how different courts will interpret this area of law when applying it to IP disputes. In fact, the Supreme Court has identified the principles of arbitrability but each of the courts below it has developed its own interpretation of the same principles.[44]

i. Restrictive Approach of Delhi High Court (HC)

In the case of ***Mundipharma AG v. Wockhardt Ltd***[45], the Delhi HC took a restrictive approach on interpreting statutory remedies such as injunctions and damages, arising from copyright infringement as non-arbitrable. The reasoning was that because Section 62 of the Copyright Act provides filing of suit and that suits must not be filed in any court lower than the jurisdiction of the District Court, which indicates it as a public interest matter and ousts arbitration. Thus, the court found that statutory entitlements to remedies are not arbitrable based on their public nature and the enforcement of intellectual property rights is also to be treated as a public interest matter. Similar conclusions were reached in different rulings holding copyright and trademark rights as rights *in rem* and non-arbitrable.

[44] Sakshi Shairwal, *Can issues of Intellectual Property Rights be addressed through arbitration?,* SHANKAR LAW ASSOCIATES (Jan. 11, 2026, 1:00 P.M.), https://www.lexology.com/library/detail.aspx?g=f2e7d3c3-812d-4025-bfff-3be6ea2b429d.
[45] *Mundipharma AG v. Wockhardt Ltd*, ILR (1991) 1 Del 606.

ii. Liberal Approach of Bombay High Court

On the other hand, Justice G.S. Patel of the Bombay HC rejected the reasoning of the Mundipharma case in the ruling of ***Eros International Media Ltd. v. Telemax Links India Pvt. Ltd.***[46]The court emphasisedthat a copyright infringement claim between private parties constitutes an action in personam and its effect is *inter partes,* therefore arbitrable. It reasoned that statutory provisions delineating court jurisdiction do not expunge arbitration, and that **commercial disputes involving specific reliefs against defined parties** do not affect rights in rem. The Court also held that arbitrators possess the power to grant relief comparable to courts, including injunctions and damages, so long as the relief is strictly inter partes and does not bind third parties.

In ***Indian Performing Right Society Ltd.(IPRS) v. Entertainment Network (India) Ltd.***[47]**,** the Bombay HC set aside an arbitral award because it granted a relief that effectively declared the licensor (IPRS) had no entitlement to the works it had licensed. The court ruled that when a decision affects the rights of IPRS against other entities and also impacts all of society at large; it crosses over into the realm of a judgment *in rem,* which is an order that cannot be granted by an arbitrator because it affects public interest.

This reasoning is consistent with the concept in the case of Vidya Drolia of functional consequences, whereby an award rendered under arbitration will not have any effect on the legal status of a public right to an IP unless it creates only personal rights and obligations[48]. This approach benefits party autonomy and provides commercial certainty in relation to licensing disputes, assignments and breaches of contract terms.

iii. Madras HC

In the recent case of ***Lifestyle Equities CV v. QD Seatoman Designs Private Limited***[49], the bench also referenced the judgments from both the Delhi and Bombay HC and reached the same conclusion that it could refer all of the disputes arising from the parties' arbitration

[46] *Eros International Media Ltd. v. Telemax Links India Pvt. Ltd.,* 20216 6 Bom CR 321.
[47] *Indian Performing Right Society Ltd.(IPRS) v. Entertainment Network (India) Ltd*., 2016 SCC OnLine Bom 5893.
[48] supra note 23, at 11.
[49] *Lifestyle Equities CV v. QD Seatoman Designs Private Limited.*

agreement to arbitration but the question as to whether these disputes were arbitrable should remain subject to the jurisdiction of the arbitral tribunal that is to be constituted.

iv. Mixed Outcomes

In addition to the various decisions discussing the challenges associated with distinguishing between contractual disputes that are subject to arbitration and non-arbitrable core rights. The rulings are clearly reaffirming the need to protect people's rights against a total loss of control over their rights due to the award of an arbitration. These cases underscore that the relief claimed often determines arbitrability rather than the nominal subject matter. Where an award directly affects erga omnes titles, courts will intervene to uphold statutory adjudication.

It is clear from the study of the aforementioned cases that there cannot be a general prohibition against the arbitrability of IPR issues and whether IPR disputes are arbitrable is still fluctuating and adjustable[50]; it will rely on the facts of each individual case. The guarantee of "**subject matter secrecy**" among the parties is the main selling factor for arbitration in IP disputes. However, in a nation like India, it can be challenging to strike a balance between the parties' interests in retaining secrecy and the "interests of the public", which prevents the arbitration of conflicts involving real property rights or the interests of third parties. Arbitration is increasingly accepted for resolving **contractual IP disputes** such as license interpretations, royalty disagreements, and breach of exclusivity, where the rights and obligations at issue are essentially private and confined to the pacta sunt servanda principle.

However, disputes that require **judicial determination of statutory rights**, such as validity contests or challenges to a registered IP's legal existence are viewed as belonging to the public sphere. In particular, the fact that one party's registered right could be invalidated or revoked through a private arbitration award has severe implications for other persons with those rights and the integrity of the public at large. This type of adjudication by arbitrators would completely disregard the legislated purpose of the law and create an unnecessary blurring of the line between the concepts of private law and public dispute resolution systems. Under Section 89 of the Code of Civil Procedure of 1908[51], a court may allow the methods of

[50] Chinmoy Pradip Sharma, *Resolution of Disputes involving IPR through Arbitration in India – An Analysis of the Legal Position,* BAR AND BENCH (Jan. 12, 10:00 P.M.), https://www.barandbench.com/columns/resolution-of-disputes-involving-ipr-through-arbitration-in-india.
[51] Code of Civil Procedure, 1908 § 89, Act No. 5 of 1908 (India).

arbitration to settle disputes between parties outside the courts only in appropriate circumstances.

Comparative Perspectives on Arbitrability of IP Disputes

The globalisation of the way in which IP is dealt with through arbitration has been influenced by developments in international trade and commerce which have led to an increased acceptance and recognition of arbitration as a method of resolving many complicated and complex IP-related disputes.[52] Even though the global community has reached a point at which it is largely accepted that arbitration is a viable forum to resolve complicated IP disputes, there are still many differences between the various jurisdictions concerning how far the scope of arbitrability of the rights of the parties to an IP-related matter will be extended. Among the advantages of using arbitration to achieve resolution, particularly with complex, international disputes with regard to IP matters are efficiency, confidentiality and flexibility. Although all of these features are important, particularly in the resolution of complicated, highly technical and international disputes relating to IP, there are still large variances in the level of acceptance of the use of arbitration in the subsequent validity, infringement, and ownership and enforceability of the IP rights involved. The comparative landscape reveals several horizontal and vertical levels of legal approaches to arbitration, which exist with respect to varying degrees of permissibility and of restrictiveness of the use of arbitration, that represent differing policy approaches to balancing the interests of the parties with respect to the public's enforcement of the parties' rights.[53]

Foundations of International IP Arbitrability

Arbitration is widely accepted as a method of resolving disputes in the global IP arena due to its unique characteristics, including speed, confidentiality, expert decision-makers and increased enforceability for both technical and commercial sensitive disputes[54]. The acceptance of arbitration as a valid mechanism to resolve contract agreements, technology transfer

[52] Thomas Legler, *Arbitration of Intellectual Property Disputes*, 2 *ASA Bull.* 291 (2019)(Legler).
[53] ACERIS LAW LLC**,** *International Arbitration and Intellectual Property (IP) Disputes,* https://www.acerislaw.com/international-arbitration-and-intellectual-property-ip-disputes/#_ftnref24 (last visited Jan. 13, 2026).
[54]*Id.* at 10.

agreements or exploitation of IP rights has been supported by many international arbitration centres and national legal systems. The World Intellectual Property Organization (WIPO) has established the WIPO Arbitration and Mediation Center[55] as a leading authority advocating for arbitrability for IP disputes where parties are free to reach an agreement on resolution. The parties to the arbitration might use this discretionary power of choice to initiate proceedings that are appropriate for the technical aspects of IP disputes, appoint experts as arbitrators and provide legally binding awards that are enforceable without the public interest associated with court proceedings.

While there is a growing trend towards using arbitration as a method to resolve IP disputes, many jurisdictions have differing views as to the arbitrability of various IP disputes. Many countries permit the arbitration of almost all IP disputes involving even public issues of validity, whereas others apply some sort of limitation to the arbitration of contractual and inter partes disputes only. The differences between these various legal systems reflect concerns about preserving sovereign powers, maintaining public registries and protecting third party interests in IP.

i. United States

The statutory process concerning patent validity and patent infringement in the United States is very clear as described in 35 U.S.C. §294.[56] The result of an arbitration conducted under this section is "final and binding as between the parties," although it will not be enforced until such time as a notice of award has been recorded with the U.S. Patent and Trademark Office (USPTO). There is no restriction on the types of agreements between the parties regarding the arbitration of patent validity or patent infringement claims.[57] The U.S. model strikes a balance between party autonomy and public policy by allowing for the reporting of arbitration results to the USPTO. It also provides public access to arbitration results and allows private arbitration as part of U.S. intellectual property system. This system removes the potential for hidden awards or agreements that would mislead innocent third parties regarding the rights of patent holders. Furthermore, despite the mandatory nature of arbitration decisions as between the

[55] WIPO Arbitration and Mediation Center, Background, World Intellectual Property Organization, Geneva (last visited Jan. 15, 2026), https://www.wipo.int/amc/en/center/background.html.
[56] 35 U.S.C. § 294 (2018).
[57] GAR, *The Guide to IP Arbitration* 29 (John V.H. Pierce & Pierre-Yves Gunter eds., Law Business Research Ltd. 2021).

parties, the scope of the arbitration agreement will govern only as it relates to each individual patent. Therefore, those decisions will have no direct effect upon the broader legal status of the patents involved.

ii. Hong Kong and Singapore

Legislation has taken a step to eliminate uncertainty in the jurisdictions of Hong Kong and Singapore. In Hong Kong, for example, the Arbitration (Amendment) Ordinance[58] clearly states that all intellectual property disputes between parties can be arbitrated including issues related to enforceability, validity, infringement and ownership. The amendments further clarify that the ability to arbitrate remains even when prohibited by statute and thus establishes that the ability to arbitrate will never violate public policy. As a result of the amendments, uncertainty is removed surrounding the arbitrability of IP disputes and also confirms the ability to arbitrate in IP disputes when the awards are binding inter partes and cannot bind third parties or affect public registries.

Similarly, in Singapore, the Intellectual Property (Dispute Resolution) Act 2019[59] confirms that all types of IP disputes (i.e., ownership, validity or infringement) are arbitrable, thereby establishing Singapore as a premier choice of seat for IP arbitration.[60]

This model shows a conscious decision to accept arbitration as a viable method to resolve IP disputes even if the dispute has typically been handled by public courts. The arbitral awards are still considered to be only *inter partes*; they are not automatically enforceable and do not change the official record of title of the property, but require judicial enforcement to affect third parties or change any part of the public record of the property. Thus, there is a balance between knowing that the decisions of an arbitrator should be predictable but also having an efficient means to resolve matters privately. It has resulted in making Hong Kong and Singapore attractive locations to host international IP Arbitration.

[58] Arbitration (Amendment) Ordinance 2017, No. 5 of 2017 (H.K.).
[59] Singapore Intellectual Property (Dispute Resolution) Act 2019, § 52B.
[60] *Id.,* § 52A.

iii. Switzerland:

The Swiss legal system has adopted one of the most liberal policies in terms of global competition laws.[61] Under Article 177 of the Private International Law Act (PILA),[62] the Swiss legal framework provides for arbitration of disputes concerning "property" or "economic interests," which Swiss courts have interpreted as being applicable to IP-related issues without limitation under prevailing statute. Accordingly, patent validity and infringements are both examples of substantive law that can be determined through arbitration, where the jurisdiction is typically associated with the courts.

Following arbitrators declaring IP rights enforceable by Swiss courts, the Swiss Federal Institute of Intellectual Property (IFIP) may then recognise arbitral awards as enforceable for purposes of amending the patent register.[63] In this manner, arbitrators possess the capability of rendering awards that have an impact *erga omnes* just as decisions are rendered by national courts. This is a feature unique to Switzerland among the world's jurisdictions, representing an expansion of the role of private arbitration to determine legal issues affecting the public's interest and to influence national public registries.

This model illustrates and embodies Switzerland's strong commitment to the principle of party autonomy and commercial certainty in international transactions and provides a mechanism for integrating the results of arbitration into a nation's IP legislation by means of requiring certification of enforcement.

Cautious or restrictive approaches

Civil law systems tend to be more cautious or take a hybrid approach when considering arbitration for IP disputes. In Germany, while arbitration of IP disputes is permissible based on contract disputes only, patent infringement and patent validity disputes are governed by courts that have specialisation in patent law. In addition to this, Germany has separated its patent litigation process into two distinct stages; litigation on validity and infringement are handled separately. However, courts have begun to show more willingness to allow for arbitration of

[61] David Rosenthal, '*Chapter 5: IP & IT Arbitration in Switzerland'*, in Manuel Arroyo (ed.) at 958 (2018).
[62] Federal Act on Private International Law (PILA) Dec. 18, 1987, as amended, art. 177 (Switz.).
[63] *Id. p.36.*

certain IP causes of action with inter partes effect while core issues of public law continue to be largely within the jurisdiction of courts.[64]

France historically denied broad arbitration of IP disputes, reflecting concerns about preserving public adjudication of core rights.[65] However, subsequent legislative amendments expressly permit arbitration for IP disputes, albeit often maintaining that awards do not have public res judicata effect.

Other civil law jurisdictions vary: Belgium and Switzerland have embraced broad arbitrability, while countries like Spain and Japan (absent express statutes) leave determination to evolving case law, and South Africa **prohibits arbitration of certain IP disputes,** particularly patent disputes.[66]

Judicially evolving regimes

In common law systems, even where arbitration laws do not expressly address IP, courts have often interpreted arbitration agreements broadly to encompass IP disputes: **United Kingdom (UK)**, for example, recognise arbitration of trademark and copyright disputes and have extended arbitrability to patent validity with **inter partes effects,**[67] based on judicial interpretation of general arbitration statutes and case law affirming freedom of contract and pro-arbitration policies.[68] In **Australia**, courts generally allow arbitration of patent disputes arising from contracts, reflecting a pragmatic alignment with commercial practice and a broad procedural view that contractual rights to arbitration should be upheld where not contrary to public policy.[69]

[64] Finnuala Meaden-Torbitt, *The Arbitrability of IP Disputes: A Concern of the Past?,* KLUWER ARBITRATION BLOG (Jan. 14, 2026, 10:00 P.M.), https://legalblogs.wolterskluwer.com/arbitration-blog/the-arbitrability-of-ip-disputes-a-concern-of-the-past/.
[65] Court of Appeal of Paris, *Ganz v. Societe Nationale es Chemins de Fer Tunisiens (SNCFT),* 29 March 1991, Rev. Arb 1991, p. 478.
[66] The Patents Act 57 of 1978, § 18(1) (S. Afr.).
[67] Supra note 30, at 10.
[68] supra note 32, at 11.
[69] supra note 8, at 3.

Enforcement and Dynamics of New York Convention[70]

Arbitral awards are recognised and enforced globally by virtue of the New York Convention, as the enforceability of arbitral awards may be a legal issue because the foreign jurisdiction's law must have been arbitrated about the award prior to enforcing its terms Article V(2)(a).[71]

The second paragraph outlines a global perspective on the divergence among judicial systems regarding both party autonomy, commercial efficiency and the protection of the public interest regarding IP rights. India's limited experience with arbitrability issues and related concerns presents a unique disadvantage relative to jurisdictions that provide a clear statutory framework (e.g., the U.S., Hong Kong and Switzerland). By assessing the rapid growth of arbitration globally, India may consider legislative clarification through legislative activity or judicial consolidation through the courts of appeal as a viable option. A balanced approach that recognises and maintains the public interest while promoting private arbitration could provide a more effective and predictable method of enforcing IP rights and increase global competitiveness regarding IP enforcement systems.

The Jan Vishwas (Amendment Of Provisions) Act, 2023[72] And IP Enforcement

India recently passed the Jan Vishwas (Amendment of Provisions) Act in August 2023. This represents a major change in how IP laws are enforced and therefore how the entire regulatory landscape of India operates. It will come into effect from August 1, 2024 and aims to support both "Ease of Doing Business" and "Ease of Living" by decriminalising many minor or merely procedural violations of different Central Acts including many of India's prime IP legislation: Patents Act 1970, Trade Marks Act 1999, Copyright Act 1957 and Geographical Indications of Goods (Registration and Protection) Act 1999. The act shows that there is an increasing emphasis on using proportionality in regulation, by promoting civil and administrative penalties rather than criminal penalties for minor or technical non-compliance.

[70] United Nations Commission on International Trade Law, '*Status: Convention on the Recognition and Enforcement of Foreign Arbitral Awards'*, https://uncitral.un.org/en/texts/arbitration/conventions/foreign_arbitral_awards/status2 (accessed Jan. 2026).
[71] UNCITRAL Secretariat Guide on the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 1958), pdf available at: https://newyorkconvention1958.org/pdf/guide/2016_Guide_on_the_NY_Convention.pdf#page=239.
[72] The Jan Vishwas (Amendment of Provisions) Act, 2023, No. 18 of 2023, (11 Aug. 2023) (India).

It eliminates imprisonment as a penalty for many IP violations and instead severely raises the monetary fines imposed on the violators. The act follows the logic that minor technical violations or errors should not cause the constant fear of severe punishment on entrepreneurs and start-ups. Many offences have been removed from the list of criminal acts under the Patents Act 1970. For example, Section 120, previously punishable by imprisonment or fine, will now only attract fines which range from ₹ 1 lakh to ₹ 10 lakhs per offence plus a daily penalty of ₹ 1,000 for each day the offence continues. Similar changes have been made to Section 123 which previously prohibited non-registered agents from representing themselves as agents for registered patent applicants, now increases the fine to ₹5 lakhs with no possibility of imprisonment. The penalties for failure to report information required by Section 127 have been increased by ₹ 100,000, reduced from ₹ 1 million reflecting a greater flexibility in dealing with procedural defaults.[73]

Many offences contained in the Trade Marks Act, 1999 have been decriminalised and replaced with monetary penalties based on 0.50% of turnover or ₹ 5 lakhs as fixed fines, e.g. sections 106, 108 and 109 of the Trade Marks Act are omitted. Similar provisions, i.e. section 68, criminalising false information to authorities have been removed from the Copyright Act, 1957 due to the inclusion of similar provisions in the new mainstream criminal law (Bhartiya Nyaya Sanhita, 2023).[74]

Amendments made by this act to how the process of enforcement is implemented through the JVP act include establishing an administrative internal adjudication process that enables an assigned adjudicator to carry out investigations and impose penalties. Administrative adjudication under Section 124A and 124B of the Patents Act and Section 112A and 112B of the Trademarks Act allows the Controller of Patents and Trademarks (i.e. the Intellectual Property Office) to administer its own enforcement rather than traditional criminal courts.[75]

The JV Act supports the principle of proportionality in the enforcement of criminal law, which means that it only enforces the most serious laws in the areas where actual criminal activity has occurred. By doing this, the act reduces the number of frivolous prosecutions and legal uncertainty that have historically created barriers to confidence in business. The administrative

[73] AARNA LAW, *Decriminalization of IP – Jan Vishwas Act, 2023*, https://www.aarnalaw.com/insights/decriminalization-of-ip-jan-vishwas-act-2023 (accessed Jan. 14, 2026).
[74] Bharatiya Nyaya Sanhita, 2023, No. 45 of 2023 (India).
[75] Somya Singh, *Jan Vishwas Act, 2023 & IP Law: A Shift from Punishment to Proportion*, LIVE LAW (Jan. 14, 2026, 4:00 P.M.), https://www.livelaw.in/articles/jan-vishwas-act-2023-ip-law-a-shift-from-punishment-to-proportion-293447#_ftnref3.

adjudication processes that are included in the act are also likely to speed up the resolution process and help eliminate the backlogs in the courts, allowing them more time to focus on those cases that are substantive and serious violations or abuses of the law. There is little doubt that the mechanisms will produce faster outcomes than the courts have been able to provide; however, the effectiveness of the mechanisms is contingent upon the independence and competence of the members of the adjudication panel as well as the robustness of the appeals process.[76]

A major component of the opposition to the act's IP reforms is the loss of criminal penalties. Some academics argue that without the threat of a criminal sanction, individuals or companies who commit patent infringement, counterfeiting and other forms of deliberate piracy cannot be deterred merely by the threat of civil penalties. There are also concerns that large companies will view civil penalties as a mere cost of doing business when weighed against the potential risk of being prosecuted for a crime. This is particularly true in the realm of patent law. The removal of punitive measures for non-compliance related to patent working may increase the likelihood of parties strategically choosing not to disclose their patents or purposely hoarding patents in order to jeopardise transparency, as expressed in IP Reporting Norms.

The act takes the opportunity to decriminalise the majority of offences associated with IP. However, a very few of the most serious offences of piracy will remain criminal under both the Copyright and Trade Marks Acts in accordance with Article 61 of the TRIPS Agreement[77] as it mandates that countries impose criminal recourse and penalties for deliberate trademark and copyright piracy for the purpose of pursuing a commercial enterprise. This signifies that India is seeking to facilitate its efforts to provide an easy and efficient process of finding success in business activities while continuing to abide by its obligations under international treaties. Conversely, the doctrine that distinguishes between civil and criminal law could cause potential interpretational differences in borderline cases where the intent and scale of the infringement are not clear. Although there is nothing within the JV Act addressing the concept of arbitrability directly, it has a strong socialising component. Therefore, the potential for the JV Act to potentially alter the way rights holders and alleged infringers view their respective legal claims

[76] Pranav Aggarwal, *Decriminalisation of Intellectual Property Laws: The Effects and Defects of the Jan Vishwas Act, 2023*, SSC TIMES (Jan. 14, 2026, 6:00 P.M.), https://www.scconline.com/blog/post/2025/08/29/decriminalisation-of-intellectual-property-laws-the-effects-and-defects-of-the-jan-vishwas-act-2023/#fnref52.
[77] Agreement on Trade-Related Aspects of Intellectual Property Rights, Art. 61, (1994), available at: https://www.wto.org/english/res_e/publications_e/ai17_e/trips_art61_jur.pdf.

may lead to a greater willingness to pursue alternatives to conventional civil or criminal litigation such as ADR processes in accordance with section 89 of the Civil Procedure Code[78]. The change supports a direction for regulations in which businesses use voluntary approaches instead of adversarial criminal processes to settle disagreements. This direction follows the same path as the worldwide practices for businesses. The modifications indicate a growing awareness that strong systems protecting IP must be built not just on punishment, but also on an equitable enforcement structure that both fosters adherence to IP rights and protects them extensively.

Conclusion

The landscape of IP enforcement in India is evolving as demonstrated through the dichotomy between rights *in rem* and *in personam*, and the growing reliance on tort law and arbitration for providing effective remedies. Traditionally, IP rights (e.g., patents, trademarks, copyright) are classified as rights in rem; however, courts have provided injunctive relief, damages and equitable orders to aid in protecting these statutory monopolies. Statutory laws can be supplemented by tort claims such as passing off, when the claimant does not have a registration of their intellectual property right or when the statutory remedy is insufficient to protect their interests.

The growing popularity of arbitration indicates a growing awareness within the courts that a significant amount of IP disputes particularly those involving licensing, the commercial use of rights and breaches of contract are inherently personal and therefore should be decided through mutually agreed upon means. The various tests established by the SC in Booz Allen and Vidya Drolia illustrate that the determination of whether any dispute may be resolved by arbitration will depend on whether the outcome of such arbitration will only impact the parties to the dispute or whether it will have broader, *erga omnes* implications. The comparative examination indicates that countries like the USA, HK, Singapore and Switzerland have established broad arbitrable rights with adequate protections while other jurisdictions maintain a more restrictive approach.

The Jan Vishwas (Amendment of Provisions) Act 2023 revamps enforcement policies by decriminalising certain minor procedural offences and replacing them with fines and a

[78] *Id.* at 15.

streamlined form of administrative adjudication. While the reduced risk of criminal prosecution of an individual for a minor offence assimilates India into global elements of IP enforcement which favour proportional penalties for infractions and easy compliance, it may also inadvertently enhance the suitability of civil and consensual methods for resolving disputes. However, there still exists some doubt regarding whether the absence of prosecution on minor offences may actually lessen the severity of the deterrent effect of prosecution on an infringer and whether administrative adjudicators are able to consistently provide similar enforcement results.

To enforce effectively the dual nature of IP rights, it is necessary to develop a unique method of enforcement that acknowledges the public or statutory aspect of these rights while permitting for the resolution of private contractually created disputes. There is an urgent requirement for improved clarity regarding the relationship between criminal, civil, and administrative enforcement through both legislation and court decisions. The development of clear guidelines concerning the conduct of administrative and judicial authorities in terms of arbitrability and the eventual effectiveness of administrative adjudication will help to eliminate uncertainty. Overall, the evolution of this framework indicates that Indian IP enforcement is evolving towards a comprehensive approach that strikes a proper balance between the interests of public law and private dispute resolution, thereby increasing the predictability and sustainability of India's IP framework.

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Artificial Intelligence as a Governance Tool for Traditional Knowledge: Strengthening TKDL, Preventing Digital Misappropriation, and Rethinking Benefit-Sharing in the Contemporary IP Framework

Author: *Gunjan Kumar*[1]

Introduction

The modern knowledge economy is increasingly influenced by artificial intelligence, the distribution of knowledge through platforms, and the extensive digitisation of cultural and scientific resources. These factors are changing the whole process of knowledge production, circulation, and monetisation worldwide. The developments are exerting a lot of pressure on IP frameworks formed by traditional methods based on visible authorship, separate innovations, and territorial enforcement, thereby disclosing their incapacity to regulate data-driven and non-conventional knowledge systems to a large extent[2]. This conflict is most clearly visible in the traditional knowledge (TK) context, which is a community-based and intergenerational type of knowledge that has always been outside the formal IP protection and hence, the monopolistic nature of the IP regime has not been able to capture it[3]. The digitization of TK in traditional medicine, agriculture and culture, which are often reused for AI training and digital content creation, has led to the global public having access to TK but at the same time, it has made misappropriation and exploitation of the digital content even more acute. The role of AI in governance assumes enormous importance in this situation where the mechanisms like the Traditional Knowledge Digital Library[4] are further strengthened and the contemporary IP framework is revisited to provide for sharing of benefits.

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[2] World Intellectual Property Organization, Traditional Knowledge and Intellectual Property: Background Brief No. 1, WIPO Pub. RN2023-5.1 (2023), https://www.wipo.int/edocs/pubdocs/en/wipo-pub-rn2023-5-1-en-traditional-knowledge-and-intellectual-property.pdf.

[3] V. M. Manu Krishna, Traditional Knowledge and Intellectual Property Assets, 3 E-J. Acad. Innov. & Res. in Intell. Prop. Assets 53 (Issue II, July–Dec. 2022), https://www.cnlu.ac.in/wp-content/uploads/2025/07/Traditional-Knowledge-and-Intellectual-Property-Asset-by-V.M.-Manu-Krishna.pdf

[4] Council of Scientific & Industrial Research (CSIR), Traditional Knowledge Digital Library Unit (TKDL), https://www.csir.res.in/en/documents/tkdl (last visited Dec. 31, 2025).

Traditional knowledge has very little safeguarding from the conventional intellectual property system because of the fundamental doctrinal discrepancies. Copyright law is based on the assumption of identifying the creator and if the works are in a fixed form, whereas patent law depends totally on the novelty and inventive step that can be traced back to particular inventors, and trademark law is only concerned with the identification of the source as the commercial one[5]. In the case of such knowledge, however, the opposite is true, since it is usually very old, developed by the community and constantly changing, thus making it more or less outside the proprietary IP protection scope. Legal responses to the above-mentioned issue have mostly been centered around the development of defensive protection mechanisms that aim to stop the erroneous granting of IP rights over the already existing knowledge instead of creating exclusive ownership claims.

The Traditional Knowledge Digital Library (TKDL) of India is a landmark institutional response to the threat of the drawing of traditional medical knowledge into western world practices[6]. What started as a state-led defensive documentation project, turned into the TKDL that eventually transformed the written records of such medical systems as Ayurveda, Unani, Siddha, and Yoga into structured and searchable formats that are in line with the International Patent Classification. The empirical investigations have indicated that one of the results of this method was the withdrawal or rejection of many patent applications and, over time, a deterrent impact on further – mainly the ones relying on Indian traditional medicine – filings[7]. At the same time, scholarship has pointed out that translation and classification, such as these, are going to change the epistemic character of the conventional knowledge[8]. This raises the issue of loss of context and the replacement of the document-based state systems with the communities' custodianship.

The swift development of AI is a signal of the beginning of a new era in governance of traditional knowledge which is no longer a matter of static documentation but for dynamic analysis, translation and application. Recognizing the benefits and dangers of this change, international organizations like WHO, ITU, and WIPO have admitted that AI will play the role

[5] Economic Advisory Council to the Prime Minister (EAC-PM), *Documenting Traditional Knowledge* (Dec. 2022), https://eacpm.gov.in/wp-content/uploads/2022/12/Documenting-Traditional-Knowledge-2.pdf.
[6] *Supra* note 3.
[7] Mohd Shoaib Ansari, Role of Traditional Knowledge Digital Library (TKDL) in Preservation and Protection of Indigenous Medicinal Knowledge of India, in Herbal Medicine in India 609–620 (Saikat Sen & Raja Chakraborty eds., Springer Singapore 2019) https://doi.org/10.1007/978-981-13-7248-3_38.
[8] Martin Fredriksson, India's Traditional Knowledge Digital Library and the Politics of Patent Classifications, 34 Law & Critique 1 (2023), https://doi.org/10.1007/s10978-021-09299-7.

of a facilitator in modern health systems' acceptance of traditional medicine by Indian/healers[9]. In addition, India's recent policy movement, especially through the Gyan Bharatam Mission[10], has shown the awareness of the limitations of the old documentation methods and the advantages of AI-assisted cataloguing, multilingual access, and interoperable digital repositories for the heritage manuscript knowledge systems.

Research question and Methodology

This article does not attempt to claim ownership of traditional knowledge through intellectual property rights, nor does it recommend artificial intelligence as a replacement for the current legal and regulatory frameworks. Rather, it investigates the possibility of AI acting as a governance facilitator and thus increasing the documentation, accessibility, and traceability of traditional knowledge in places like the TKDL. The research question this study try to evaluate is: *In what ways can artificial intelligence make the documentation and governance of traditional knowledge databases stronger while still being aligned with the current intellectual property and benefit-sharing systems?*

By taking a doctrinal and policy-oriented approach located at the technical–legal interface, by analysing the current legal frameworks, the article states that the future of traditional knowledge protection rests upon the creation of hybrid governance models that incorporate attribution, community participation, and sharing of benefits' considerations within AI architectures, without exacerbating the existing structural inequalities in knowledge governance.

Traditional Knowledge and the Limits of Conventional Intellectual Property Law

Traditional knowledge (TK) not only displays various dimensions of legal nature but also resists being completely assimilated into the conventional intellectual property categories[11]. International legal literature has implicitly recognized the fact that TK is a sum of many things done by the people, passed along across generations, and through gently changing social

[9] *Supra* note 1.
[10] Gyan Bharatam, About Gyan Bharatam, https://gyanbharatam.com/about#gyanbharatam (last visited Dec. 31, 2025).
[11] *Supra* note 1.

practices rather than through suddenly occurring moments of authorship or invention[12]. Unlike the case with proprietary knowledge, it is never the same at different points in time, and it is non-static but, rather, a living knowledge system whose power comes from the community's continued use and approval. Thus, due to their very nature, TK and proprietary knowledge are dichotomous. The first being shaped by a holistic approach of communal use and acceptance, while the latter by the concept of individual creative genius, the time of fixation, and exclusivity. From the viewpoint of legal reasoning this distinction provides justification for the fact that the increasing resort to digital forms of TK will not necessarily lead to legal wrongdoing but rather to governance challenges[13]. The challenge emanates from the existing functional dissonance between the cognitive structure of the TK and the design assumptions incorporated in contemporary IP regimes.

The dissonance becomes apparent when TK is compared to the doctrinal requirements of copyright, patent, and trademark law. In India copyright law, TK is not given protection, since only "original literary, dramatic, musical and artistic works" fixed in a tangible medium are protected (Copyright Act 1957, ss. 13–14)[14], which is quite similar to the provisions of Article 2 of the Berne Convention[15] and Article 2 of the EU Information Society Directive[16]. Being in a way co-created by the community and often transmitted orally, TK does not meet either the criteria of fixation or individual authorship. The same applies to patent law, which similarly imposes restrictions. Section 2(1)(j) of the Indian Patents Act, 1970[17], mandates disclosure of the inventor's identity as a condition for patentability based on novelty and inventive step while Article 52 of the European Patent Convention classifies non-technical novelty[18], thus barring from patenting any human or natural discovery or knowledge. Traditional knowledge is, by its very definition, a cumulative and pre-existing body of knowledge and thus does not meet these requirements. The patenting standards in Indian trademark law, covered under Section 2(z)(b) of the Indian Trade Marks Act 1999[19] and Article 4 of the EU Trade Mark Regulation[20], are

[12] *Supra* note 6.
[13] World Health Organization (WHO), Technical Brief: Second WHO Global Summit on Traditional Medicine – Parallel Session 4.D, (2025), https://iris.who.int/server/api/core/bitstreams/6779075c-c354-4a76-accc-4ae635dee436/content (accessed Dec. 31, 2025).
[14] Copyright Act, 1957, §§ 13–14, No. 14 Act of Parliament, 1957 (India).
[15] Berne Convention for the Protection of Literary and Artistic Works art. 2, Sept. 9, 1886, as revised at Paris July 24, 1971, 1161 U.N.T.S. 3.
[16] Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society art. 2, 2001 O.J. (L 167) 10.
[17] Patents Act, 1970, § 2(1)(j), No. 39 Act of Parliament, 1970 (India).
[18] Convention on the Grant of European Patents art. 52, Oct. 5, 1973, 1065 U.N.T.S. 199.
[19] Trademarks Act, 1999, § 2(z)(b), No. 47 Act of Parliament, 1999 (India).
[20] Council Regulation (EC) No. 207/2009 on the Community Trademark art. 4, 26 Feb. 2009, O.J. (L 78) 1.

focused on distinguishing signs which can serve economically for trade and this is not the case with knowledge systems like traditional medicine or agricultural practices which have no such commercial orientation. WIPO and OECD analyses, and the like, consistently observe that these limitations are a reflection of the historical conception of IP law and not the normative exclusion of TK[21].

The doctrinal consequence of the stated limitations has been the shift in policy from proprietary protection to defensive protection mechanisms. Defensive protection prevents the mistaken award of IP rights over knowledge that is already in the traditional or public domains, thus preserving the integrity of the patent and copyright systems. The classic cases involving turmeric and neem patents are consistently mentioned as typical examples where the lack of available prior art documentation allowed the misrepresentation of traditional knowledge as new[22].

The international organizations and national governments have, in this regard, pointed out the presentation of TK in satisfactory formats to the IP examiners as a way of protecting the public domain without changing the ownership structures[23]. Such mechanisms do not give a monopoly over the rights, nor do they change TK into marketable assets; they just serve as governance tools that operate within the existing IP frameworks. It is in this doctrinal context that the state-led documentation initiatives like India's Traditional Knowledge Digital Library have been developed as governance instruments instead of rights-conferring regimes.

TKDL as a Defensive IP Mechanism: Achievements and Structural Constraints

India's Traditional Knowledge Digital Library (TKDL), which was created in the year 2001[24], is an example of an institutional response to the limitations of the intellectual property law that have been discussed in the preceding section. The initiative was taken by the Council of Scientific and Industrial Research (CSIR) and later on, the Ministry of AYUSH provided its support to the TKDL project[25]. The main aim of the project was to stop the issuing of patents

[21] *Supra* note 1.
[22] Rachel Wynberg, Biopiracy: Crying Wolf or a Lever for Equity and Conservation?, 52 Res. Pol. 104674 (2023), https://doi.org/10.1016/j.respol.2022.104674.
[23] World Intellectual Property Organization (WIPO), Composite Study on the Protection of Traditional Knowledge, WIPO/GRTKF/IC/5/8 (Apr. 28, 2003).
[24] *Supra* note 3.
[25] Ministry of AYUSH, Traditional Knowledge Digital Library, Factsheet (Sept. 1, 2022), https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/sep/doc20229199001.pdf.

that were based on misunderstandings of traditional medical knowledge. The main reason for its existence is that it reframes the codified traditional knowledge to be legally recognized as prior art and this is done by the patent examination processes rather than that of creating proprietary entitlements. In practical terms, the TKDL transcribes knowledge from the various authoritative texts written in Sanskrit, Arabic, Persian, Urdu, and regional languages to the structured formats which are corresponding with the International Patent Classification (IPC). The database is accessible to specific patent offices under controlled agreements, which is in line with the narrowly defined preventive mandate of the library. This design of the library directly corresponds to the doctrinal constraints that were identified in Section II, where traditional knowledge falls outside the limits of novelty, authorship, and inventorship that are required for proprietary IP protection.

The existing empirical evidence suggests that the TKDL has successfully operated as a protective prior-art repository within the global patent systems. Reports from the government and documents from WIPO show that the patent offices of the European Patent Office (EPO)[26], the United States Patent and Trademark Office (USPTO)[27], and the United Kingdom Intellectual Property Office (UKIPO) are among those which, during the examination of applications dealing with traditional medicinal formulations, constantly refer to the TKDL[28]. Report[29] says, the use of TKDL-based citations has played a significant role in the withdrawal, amendment, or rejection of many patent applications that were based on knowledge that was already available in traditional sources. Scholarships also highlight a deterring effect that is shown by a decrease in patent filings connected with Indian traditional medicine after the establishment of structured access to TKDL. This effect can be characterized as a reversal of the information gap between the applicants and examiners, in which the administrative efficiency was enhanced but the standards of patentability remained the same.

The TKDL, however, suffers from the drawbacks of its defensive design and thereby also has the advantages of the same. Its main limitation is that it is text-centric, a static database that is dependent on the translations of the codified sources rather than real-time or continuous knowledge import. The reach of its operations is still limited to the patent examination process,

[26] European Patent Office (EPO), About Us, https://www.epo.org/en/about-us (last visited Dec. 31, 2025).
[27] United States Patent and Trademark Office (USPTO), About Us, https://www.uspto.gov/about-us (last visited Dec. 31, 2025).
[28] *Supra* note 6.
[29] Martin Fredriksson, Balancing Community Rights and National Interests in International Protection of Traditional Knowledge: A Study of India's Traditional Knowledge Digital Library, 43 Third World Q. 352 (2022), https://doi.org/10.1080/01436597.2021.2019009.

with patent office's being the main entity who have access to it and besides, it has no means to check the downstream digital distribution or the secondary use of the knowledge that has been documented. Not only that, but the TKDL also does not have any frameworks for benefit-sharing, consent management, or attribution[30]. It rather shows the intention of the body preventing the IP grants from going to the wrong hands than it does of regulating the future practices. The times when knowledge ecosystems were mostly non-digital and non-algorithmically mediated seem to recede as these structural constraints are pointed out, thus, emphasizing the need for AI-enabled governance tools as the static documentation approach becomes less relevant amidst the growing complexity.

Role of Artificial Intelligence in Enhancing Documentation, Detection, and Traceability of Traditional Knowledge

The correct positioning of Artificial Intelligence (AI), as an iconography infrastructure for the informational governance, can easily handle many functional limitations of the static documentation systems such as the Traditional Knowledge Digital Library (TKDL). AI does not create new legal rights or change the underlying intellectual property doctrinal framework. Instead, it increases administrative capacity through the use of automation, pattern recognition, and semantic processing while still depending on human oversight and current IP examination regimes[31]. So, AI is a layer that enhances capacity and at the same time keeps the defensive character of the TKDL system.

If we want to figure out the exact point of AI intervention, we need to clearly describe the current step-by-step process of TKDL documentation. The first step is the identification and sourcing of classical texts in Indian systems of medicine, which consist of various prescriptions and formulations written in Sanskrit, Arabic, Persian, Urdu, and regional languages[32]. The next step involves the transcription and translation of these texts into structured digital entries by multidisciplinary teams. After that, the new entries are assigned codes according to the Traditional Knowledge Resource Classification (TKRC)[33], which is compatible with

[30] *Supra* note 1.
[31] Abha Nadkarni & Shardha Rajam, Capitalising the Benefits of Traditional Knowledge Digital Library (TKDL) in Favour of Indigenous Communities, 9 NUJS L. Rev. 183 (2016), https://nujslawreview.org/wp-content/uploads/2017/01/2016-9-1-2-Abha-Nadkarni-Shardha-Rajam-Capitalising-the-Benefits-of-Traditional-Knowledge-Digital-Library-TKDL-in-Favour-of-Indigenous-Communities.pdf.
[32] *Ibd.*
[33] *Ibd*.

international patent classification (IPC)[34], thus making it easy for patent examiners to access prior art in the categories they are familiar with. Finally, the structured database gets opened up for use the current scenario is that it is accessed by several international patent offices via controlled access agreements, so that patent examiners can check applications against documented TK.

Stepwise AI can drastically reduce the manual work done at each point. For giving documents in several languages, natural language processing (NLP) along with optical character recognition (OCR) are the two methods that lessen the manual labour done on getting text in large amounts transcribed and translated[35]. On the other hand, AI-assisted semantic indexing is more than just connecting words through the same surface; it links meanings that are similar across languages and dialects which in turn makes knowledge systems more interoperable. This is not only true but also a big need because of the vastness and the numerous languages used in India's traditional knowledge where sometimes unstructured texts are written using script that patent examiners are not familiar with.

Machine learning algorithms can find hidden connections and functional resemblances that usually are overlooked by the traditional keyword searches in the area of prior-art and similarity detection, particularly where the formulations have been paraphrased or recontextualized to meet the novelty thresholds. This is a help to patent examiners in marking the relevant prior art, however, the final legal decision is still in the hands of humans.

AI also helps to keep an eye on electronic repositories plus the new AI-generated content that might be TK-related. Besides, automated alerts and pattern detection systems can monitor patent databases, research articles and digital content that is being produced, spotting areas where traditional knowledge has been documented. This practice of risk identification and early warning goes hand in hand with the governance not censorship objectives highlighted by UNESCO and WIPO[36].

AI is the technology that can provide better methods of provenance tracking and metadata creation, such as tagging entries with contextual markers that strengthen the traceability, attribution, and cross-repository integration. But AI lacks the ability to encode free, prior, and

[34] World Intellectual Property Organization (WIPO), About the Traditional Knowledge Digital Library (TKDL), https://www.wipo.int/meetings/en/2011/wipo_tkdl_del_11/about_tkdl.html (last visited Dec. 31, 2025).
[35] *Supra* note 6.
[36] *Supra* note 12.

informed consent or replace community governance; such normative functions need to be embedded through policy and institutional frameworks that go beyond technical systems.

The new Gyan Bharatam Mission is a clear sign of the state's acknowledgment of these capacities on a larger scale[37]. This project is going to be a huge one, as it plans to document and digitize more than one crore manuscripts by integrating AI, OCR, and blockchain for transcription, provenance tracking, and smart access (Ministry of Culture, 2025)[38]. The mission, which makes the whole Indian subcontinent's intellectual property area accessible through AI helpful tools, shows how AI can effectively enlarge documentation of different kinds of traditional knowledge, to an extent that the linguistic diversity and the large number of documents do not pose a problem, as these can be handled through automated processes only.

While AI can strengthen documentation, detection, and traceability, its governance implications ultimately depend on how such technical capacities are embedded within legal and policy frameworks that address community consent, benefit-sharing, and ethical use.

Benefit-Sharing, Community Interests, and the Role of AI-Assisted Governance

The issue of benefit-sharing is at the basis of the norm in traditional knowledge governance but is still only partially covered by conventional intellectual property systems. On the international stage, the CBD and its related protocols mainly deal with the topic of benefit-sharing, the former being the Convention on Biological Diversity[39] and the latter the Nagoya Protocol[40]. These two agreements have set up a legal obligation requiring the obtaining of consent and the agreed-upon terms for the use of genetic resources and the traditional knowledge related to them. The Nagoya Protocol has clearly stated that the benefits which come from the exploitation of both genetic resources and associated traditional knowledge need to be shared

[37] Government of India, Press Information Bureau, Gyan Bharatam Mission, Press Note (Oct. 9, 2025), https://www.pib.gov.in/PressNoteDetails.aspx?NoteId=155185&ModuleId=3&reg=3&lang=2.
[38] Government of India, Ministry of Culture, Gyan Bharatam Mission, https://www.culture.gov.in/gyan-bharatam-mission (last visited Dec. 31, 2025).
[39] Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79, https://www.cbd.int/convention (last visited Dec. 31, 2025).
[40] Convention on Biological Diversity, Access and Benefit-Sharing (ABS), https://www.cbd.int/abs (last visited Dec. 31, 2025).

in a fair and equitable manner[41], and thus benefit-sharing has been, such to say, 'loathed' in a more extensive access and compliance framework rather than in IP law.

Setting aside this framework, intellectual property law is still structurally incapable of ensuring fair sharing of benefits. The IP systems give importance to the exclusive rights, novelty criteria, and the claim of individuals or corporations, whereas the sharing of benefits under ABS regimes[42] proceeds through governmental authorizations and contract negotiations that may be done beforehand or upon use. The situation of biopiracy as illustrated by empirical studies shows that the primary reasons of provider countries and communities being unaware of when traditional knowledge has been used commercially and thus being unable to impose ABS obligations are the lack of effective tracing and monitoring mechanisms[43].

From this perspective, the issue is not only a matter of principle but also one of the practical applications: if the use in the downstream market is not visible, the sharing of benefits becomes an aspiration rather than something that can be enforced.

AI-assisted governance will not be able to close the gap in a very meaningful way. AI will not create any rights, but it will help provide a stronger base of information, which is the backbone of ABS frameworks. AI traceability tools can be used to find the commercial uses of traditional knowledge by looking at patent databases, scientific papers, and online platforms together. This analysis may open up regulatory or contractual reviews in the context of ABS regimes at the national level. Besides, such systems can facilitate the process of making things clear and open by giving audit trails, finding out the origin, and providing metadata that show the link of current usage back to the documented sources of traditional knowledge. These functions are significant because they are in line with the compliance-focused reasoning of the Nagoya Protocol, which imposes obligations on users to prove legal access and benefit-sharing instead of placing the burden on communities to monitor and stop misuse[44].

The international policy consensus has also warned against the belief that technology is the only answer in this field. AI systems will not be able to represent community consent, negotiate fair terms or take the place of participatory governance. The legal enforceability of benefit-sharing depends on the domestic ABS laws, contracts, and the institutions' capacity. AI will

[41] Maria Serena Beato & Valentina Veneroso, The Nagoya Protocol on Access and Benefit Sharing: The Neglected Issue of Animal Health, 14 Front. Microbiol. 1124120 (2023), https://doi.org/10.3389/fmicb.2023.1124120.
[42] *Supra* note 1.
[43] S. Kumari & P. Shree, Impact of TKDL on Patent Applications in the Field of Bio-resources, 29 J. Intell. Prop. Rts. 133 (2024), https://or.niscpr.res.in/index.php/JIPR/article/view/3373/2747.
[44] *Supra* note 40.

thus not solve the fundamental issue; it will rather enable governance by making detection, accountability, and transparency easier. The question of who gets what in terms of benefits remains a legal and political one. The regulatory frameworks surrounding AI-assisted governance can allow the achievement of benefit-sharing goals without the technical capability being confused with the legal right.

Ethical and Cross-Jurisdictional Challenges in AI-Driven TK Protection

The use of artificial intelligence in the documentation and governance of traditional knowledge brings up heavy ethical issues, especially regarding the consent of the communities, their data sovereignty and the control over knowledge. International legal texts are starting to more and more emphasise that traditional knowledge is not only data to inform about a certain topic but also a part of social, cultural, and spiritual contexts[45]. The process of digitising and algorithmically processing this kind of knowledge, particularly when it is done with the help of state or platform infrastructures will probably take away the community's right to decide how the knowledge will be accessed, interpreted and reused[46]. The international policy frameworks proposed by UNESCO and WIPO state that AI systems with a training basis of cultural heritage data have to abide by the FPIC principle (free, prior and informed consent) and should not turn culturally bound knowledge into decontextualised data assets[47]. Thus, the ethical problem does not rest in the documentation as such but rather in the commitment to creating a non-extractive repository for AI's active role and technology's passive.

Another thing related to the previous point is the limitation of AI systems structure and biases. The machine learning models are based on training data, classification choices, and optimisation objectives that might not capture the dynamic, pluralistic, and non-codified aspects of traditional knowledge[48]. Misrepresentation, over-standardization, or extinction of

[45] World Health Organization (WHO), *Ethics and Governance of Artificial Intelligence for Health: WHO Guidance* (2021), https://iris.who.int/server/api/core/bitstreams/f780d926-4ae3-42ce-a6d6-e898a5562621/content.

[46] Mira Burri, The Governance of Data and Data Flows in Trade Agreements: The Pitfalls of Legal Adaptation, 51 UC Davis L. Rev. 65 (2017).

[47] World Intellectual Property Organization (WIPO), WIPO Conversation on Intellectual Property and Frontier Technologies, https://www.wipo.int/en/web/frontier-technologies/frontier_conversation (last visited Dec. 31, 2025).

[48] India Takes a Lead in the World by Digitizing Traditional Medicine Using an AI-Based Library, The Economic Times (India), July 22, 2025, https://economictimes.indiatimes.com/ai/ai-insights/india-takes-a-lead-in-the-world-by-digitizing-traditional-medicine-using-an-ai-based-library-/articleshow/122833583.cms.

knowledge forms that do not fit into the dominant linguistic or epistemic frameworks might be caused by errors in translation, semantic reduction, or contextual tagging. The literature in ethics regarding AI governance makes it very clear that biases in AI systems are not just unintentional errors but rather are indicative of the entire design process that has distributive effects. In the case of traditional knowledge, uncertainties are worse since inaccuracies can affect patenting, moderation of digital content, or even the commercial use of the material without any effective means for the community to rectify or compensate for the situation[49].

Moreover, the cross-border differences create an even more difficult situation for traditional knowledge protection based on AI technology. It is possible for traditional knowledge to be stored in a country's repository or to be subject to the access and benefit-sharing regulations of a particular country, but that still does not prevent the operation of AI systems utilizing the worldwide mixed datasets and beyond the control of the applicable territory's regulations. Knowledge that was initially in one country may get processed, used commercially, or even be part of AI works created in another country, thereby creating the need for jurisdiction, authority, and platform responsibility questions to be answered. WIPO also remarked that the present international regimes of IP and data governance are not prepared to cope with the situation of using traditional knowledge through transboundary algorithms. Such a situation where jurisdictions do not overlap emphasizes the necessity for the establishment of international standards that are consistent with AI governance, platform regulation, and traditional knowledge protection without the assumption of homologous legal recognition or enforcement capacity among the states involved.

Conclusion

The article has delved into the issue of escalating conflicts between the older knowledge systems and the newer IP regimes in a world dominated by AI, digital platforms, and widespread data sharing. It has pointed out that India’s Traditional Knowledge Digital Library is a practical and smart way to deal with the problems that come with these conflicting areas and at the same time, it works as a correction of the patent system's information imbalances rather than taking away traditional knowledge and erecting proprietary rights over it. With the help of the AI tools like the multilingual documentation, semantic indexing, and prior-art

[49] *Supra* note 46.

similarity detection, the ability of TKDL to prevent wrong patent grants and to enhance the administrative process can be greatly improved. The use of this technology does not interfere with the IP doctrines but rather improves the documentation, access, and evaluation of the knowledge.

The analysis, however, also warns against giving AI normative and distributive functions that the latter cannot rightfully perform. The use of AI does not eliminate the basic questions of ownership, consent, or benefit-sharing that need to be addressed, and it does not lessen the need for community-based governance and legal supervision either. AI can help with making traditional knowledge visible, support monitoring in digital and cross-border environments, and facilitate the disclosure of knowledge transactions, but the fairness of the outcomes is still largely determined by the design of the institutions, the frameworks for access and benefit-sharing, and the regulatory arrangements that are enforceable. Viewing AI as a law replacement puts one at the risk of hiding the political and ethical choices that are still prevailing in the matter of traditional knowledge governance, and which are still determining how it is being governed in practice.

The future of the protection of traditional knowledge will not be based on technological determinism but rather on a well-calibrated integration. The slow-moving legal reform, international standards, and AI-assisted governance structures that are well thought out and designed carefully are the paths that offer more credibility than the arguments of technological transformation alone[50]. The article presents a slow but positive vision: where technology is an infrastructure that provides support and not as a rights creator or a self-regulating solution, it will still enhance the existing protective mechanisms while keeping the community's ability to exercise their rights, the legal accountability, and the epistemic integrity in the global knowledge ecosystems that are increasingly driven by data.

[50] Viswajanani J. Sattigeri, Documentation of Traditional Knowledge and the Traditional Knowledge Digital Library (TKDL), 3 J. Indian Med. Heritage 58 (Apr.–June 2024), https://journals.lww.com/jimh/fulltext/2024/04000/documentation_of_traditional_knowledge_and_the.2.aspx.

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A Comprehensive Analysis on Challenges Navigating Digital Piracy and Virtual Counterfeiting

Author: *Vibhor Singh*[1]

Introduction

According to a report by OECD (Organisation for Economic Co-operation and Development) published in 2016, the international trade in counterfeited and pirated products amounted to a total value of USD 509 billion, which represented up to 3.3% of the world trade.[2]

Despite legal provisions and regulations, if digital piracy remains unchecked and not monitored, India's video sector and industry could lose USD 2.4 billion by 2029.[3]

The process of illegally copying or distributing any copyrighted material on the Internet, is known as digital piracy. This includes materials like movies, music, software, books and any other material that has the potential to be illegally copied and distributed via the Internet.[4] Due to the recurring expanding scope of the Internet, it has also resulted in a sudden stride of virtual counterfeiting. It is defined as the fraudulent imitation or the replica of the original digital product, which is sold at a lower price than the original product, which is done virtually. There has been the growth of fake and manipulated standard virtual goods like fake online shopping forums, NFTs, fake digital certificates, fake courses, and many more.[5]

This topic is relevant in contemporary age because the new economy which engulfs the world in today's age is a virtual one, comprising of a rise in streaming services, metaverse facilities, crypto investments and assets, cross-border trade done within seconds online and the surge in

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[1] 1st year, Symbiosis Law School, Noida.

[2] Organisation for Economic Co-operation and Development (OECD), *Trends in Trade in Counterfeit and Pirated Goods* (2019), https://www.oecd.org/content/dam/oecd/en/publications/reports/2019/03/trends-in-trade-in-counterfeit-and-pirated-goods_g1g9f533/g2g9f533-en.pdf.

[3] "Despite legal safeguards, digital piracy set to cost India's video sector $2.4 billion by 2029: Report," ETGovernment, May 6, 2025, https://government.economictimes.indiatimes.com/news/economy/despite-legal-safeguards-digital-piracy-set-to-cost-indias-video-sector-2-4-billion-by-2029-report/120923533.

[4] INTERPOL, *Digital Piracy*, https://www.interpol.int/en/Crimes/Illicit-goods/Shop-safely/Digital-piracy (last visited Sept. 25, 2025).

[5] Conventus Law, India – Counterfeiting in the Virtual World (Apr. 2, 2017), https://conventuslaw.com/report/india-counterfeiting-in-the-virtual-world/ (last visited Sept. 25, 2025).

demand of online ten-minute delivery services to a person's doorstep. To prevent the trade of illegally imitated copyrighted material and to protect the patented creations created on various online platforms, from being virtually counterfeited and pirated by efficient applying Intellectual Property Rights (IPR) laws, an analytical, tailored and a methodical study is needed to formulate legal, technical and coordinated solutions to prevent such incidents from occurring in today's crucial virtual age.

Historical Background

Digital piracy has its origins and foundations built in the decade of 1980s. Before the existence of widespread broadband internet, CDs and DVDs were the main sources to be pirated. Copying movies and music on CDs and DVDs existed before the advent of digital privacy and these sources were sold in the grey market. In US, many cam-cording movies were recorded on DVDs, cassette tapes and were sold in local markets. They were also smuggled to other countries.[6]

From floppy disks, CDs and DVDs they were evolved to peer-to-peer (P2P) networks.

There was also a rise in the establishment of warez groups. These groups used to steal music, movies, games and other software from the Internet, used to record, process and distributed them in P2P networks.[7] P2P networks are de-centralized communicational frameworks in which each people can share files or other resources to each other without the need of a centralised system.[8] Music piracy was also observed due to weak DRM (Digital rights management) structures. DRM prevents the duplication and replication of music and effectively utilizes copyright management.

The introduction of video tapes resulted in the culmination of: "Sony Corp. v. Universal City Studios (1984)", where it was primarily held, "if a device is sold for a non-copyright infringing, legitimate and a lawful purpose, its manufacturer would not be held liable for the copyright infringement done by the users of the device."[9]

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[6] Virupakshi R., *Conspiracy of Pirated Movies: Threats and Remedies*, 1 Jus Corpus L.J. 192 (2020).
[7] FBI, *International LEOs Target Criminal Warez Groups*, May 17, 2004, https://archives.fbi.gov/archives/news/stories/2004/may/piracy_051704 (last visited Sept. 25, 2025).
[8] ScienceDirect, *Peer-to-Peer Networks — an overview*, ScienceDirect Topics, https://www.sciencedirect.com/topics/computer-science/peer-to-peer-networks (last visited Sept. 25, 2025).
[9] David Wood, *Digital Rights Management*, EBU Technical Review, No. 309 (July 2006), https://tech.ebu.ch/docs/techreview/trev_309-digital_rights.pdf (last visited Sept. 25, 2025).

After considerable number of years, there was a stride in the rise of MP3 peer-to-peer file sharing networks, mainly Napster, Kazaa, and LimeWire, to name a few. Established in 1999, Napster was notorious for allowing free sharing of songs between users. Its operations were disrupted in 2001 as a result of ongoing lawsuits and finally, it filed for bankruptcy in the year of 2002.[10] Kazaa was also an illegal file-sharing network that was used for illegal activities like malware sharing distribution, sharing illegal downloads and contraband sharing.[11] It is a prime example of being an offshore P2P network, i.e., its origin has not been in the place where it was predominantly used, which is, the United States of America (USA) and many other countries. Hence, being an offshore network, it was hard to take legal action against it because it wasn't fully subject to the laws of various other countries. It was officially shut down in the August of 2012.[12]

Another instance seen was of LimeWire. Like its above-mentioned contemporaries, it was a large and free P2P file sharing network. Many record companies faced multitude of losses due to the sharing of free music on LimeWire. In 2010, a "federal court in New York" issued a "permanent injunction against it", as a result of the "massive copyright infringement" caused by its operations.[13]

The pivot of digital piracy then shifted to torrents and streaming piracy.

The establishment of the BitTorrent protocol, in 2001, for the distribution of files on the internet through P2P networks, revolutionized digital piracy.[14] Unlike Napster, which was centralised, torrents were de-centralized which made to restrict them, a challenge. Numerous torrents like The Pirate Bay, Kickass Torents and Demonoid, became largely popular.

Streaming piracy, perhaps the most common today, came into the picture due to the advent of faster internet speed. People started preferring downloading movies from illegal sites and extracting audio and video from YouTube, on illegal sites, which is a classic example of steam-ripping. India has lost Rs. 22,400 crores due to piracy on illegal streaming sites and downloading movies on unlawful sites.

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[10] **Lauren Feiner**, "Napster Bought for $207 Million," *CNBC* (25 Mar. 2025).

[11] "Kazaa," ScienceDirect Topics, Computer Science, ScienceDirect, https://www.sciencedirect.com/topics/computer-science/kazaa (last visited Sept. 29, 2025).

[12] Seagrumn Smith, *From Napster to Kazaa: The Battle Over Peer-to-Peer Filesharing Goes International*, Duke L. & Tech. Rev., 2003, at 1.

[13] Josh Halliday, *LimeWire shut down by federal court*, The Guardian (Oct. 27, 2010), https://www.theguardian.com/technology/2010/oct/27/limewire-shut-down.

[14] Samiran Chakrawertti, *Napster dead, here comes Torrent*, Times of India (July 22, 2005), https://timesofindia.indiatimes.com/napster-dead-here-comes-torrent/articleshow/1179610.cms.

Legal Frameworks Around the World

There are many legal frameworks, nationally and internationally, which prohibit the practices of digital piracy and virtual counterfeiting.

It includes the TRIPS Agreement.[15] Part III of the agreement specifies the provisions required "for the enforcement of intellectual property rights." Articles 41-43 require the administrative, judicial and civil procedures to enforced in a fair and in a manner in accordance with a reasonable time period, which gives right-holders and infringers the appropriate process to take recourse to.[16] Articles 44-46 empower the judicial authorities to issue injunctions "to prevent infringements of intellectual property rights", "to prevent the entry of imported infringed material in the market even with a clear signal from the customs", to remove and destroy infringed goods or services and to award damages in case of violations.[17] Articles 47-49 necessitate the transmission of information about the distributors taking part in the distribution of the infringed material, protection against the misuse of proceedings against the defendant, and states the equitable administrative procedures required.[18] Article 50 states and allows provisional measures, which includes giving immediate and urgent relief without giving a prior notice which is necessary to prevent infringement in such interim situations.[19] Articles 51-60 specify the border measures, which include the suspension of the release of goods which have infringing trademarks and copyright, on request of the right holders. Members may extend these provisions to other intellectual property rights. Goods that are found to be infringed, can be destroyed or removed from commercial markets, though such procedures must not cause abuse and protect the interests of legitimate trade.[20] Article 61 talks about the criminal procedures to be enforced. It states that Members must enforce criminal penalties, which includes the punishments of imprisonment and fines, for the offences of "wilful trademark counterfeiting" and "engaging in copyright piracy for commercial purposes." "Remedies", include seizure, forfeiture and disruption of infringed goods.[21]

[15] **World Trade Organization**, *TRIPS Agreement* (15 Apr. 1994).
[16] TRIPS, *supra* note 14, arts. 41-43.
[17] TRIPS, *supra* note 14, arts. 44-46.
[18] TRIPS, *supra* note 14, arts. 47-49.
[19] TRIPS, *supra* note 14, art. 50.
[20] TRIPS, *supra* note 14, arts. 51-60.
[21] TRIPS, *supra* note 14, art. 61.

In 1998, “Digital Millenium Copyright Act” was passed for responding to the methods used by people to use copyrighted works in the late 1990s.[22] It was also to update the US copyright laws to adjust it to the upcoming digital age. It added various landmark provisions which were necessary at that time and have a significant impact even today. It implemented two 1996 “World Intellectual Property Organisation (WIPO) treaties”: “WIPO Copyright Treaty (WCT)” and “WIPO Performances and Phonograms Treaty (WPPT).”[23]

But to implement the treaties wasn’t the sole purpose. There were many key provisions added in this legislation. 17 USC 1201 listed the anti-circumvention provisions which stated that the copyright owners had to secure exclusive DRM to protect their work from being infringed.[24] By making this a mandate, it was a crucial step in ensuring the protection and preventing the existence of encroachment and tampering of their intellectual property rights.

17 U.S. Code Section 512 was also an important provision included which stated the limitations and restrictions which related to materials online.[25] It provides for the creation of a unique notice-and-takedown system. This system allows the copyright right-holder” to issue a notice to their online service provider” in case their work is being infringed, "to remove or disable access to the infringed material.”[26]

The limitations were known as safe-harbours. The safe harbours provide protect the online service providers from any monetary liability due to the actions of copyright infringement of their users. It provides them strong incentives and benefits to cooperate for detecting and finding out copyright infringements in digital frameworks.[27] DMCA further specified a counter-notice procedure to be filed in response to a valid takedown of an infringing website owner. This is an essential procedure to ensure that the authorities do not wrongly disrupt the platforms without any legally binding reason.[28] Various civil and criminal remedies are granted in this legislation which includes fines in the range of $500,000 to $1,000,000 and imprisonment time periods ranging from five to ten years.[29]

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[22] **Stephen Wolfson**, “DMCA in a New Phase,” Penn Libraries (9 Dec. 2024).
[23] **Digital Millennium Copyright Act**, § 512.
[24] Wolfson, *supra* note 21.
[25] DMCA § 512 *supra* note 22.
[26] DMCA § 512 *supra* note 22.
[27] Kristian Stout & Geoffrey A. Manne, *A Roadmap to Reform Section 512 of the Copyright Act*, INT’L CTR. FOR LAW & ECON. (Oct. 13, 2022), https://laweconcenter.org/wp-content/uploads/2022/11/A-Roadmap-to-Reform-Section-512-of-the-Copyright-Act-.pdf.
[28] DMCA.com, What is a DMCA Counter Notice?, https://www.dmca.com/FAQ/What-is-a-DMCA-Counter-Notice (last visited Sept. 29, 2025).
[29] DMCA § 512 *supra* note 22.

To illustrate the applicability of the DMCA, there were several important landmark precedents set in the U.S. judicial system. Some notable ones include: A&M Records Inc. v. Napster, Inc. (2001). In this case, the Ninth Circuit ruled that file sharing of copyrighted work through P2P networks through the help of a platform called Napster is not legal and does not amount to fair use, and it is also illegal to do it for a commercial purpose.[30]

In MGM Studios, Inc. v. Grokster, Ltd. (2005), the Supreme Court held that if a company distributes infringed copyrighted material, with the intent to promote it, then it should be held responsible for the acts of infringement committed by its third parties.[31]

Another one named "Viacom Int'l, Inc. v. YouTube, Inc.", initially "District Court" held that the "defendants were entitled to safe harbour protections" as they didn't have any sufficient notice of the particular infringements in the suit.[32] The Second Circuit reversed certain parts of the judgement but upheld the entitlement of safe harbour provisions. Thus, in a summary judgement granted by the District Court, on considering the remand from the Second Circuit Court of Appeals, it was held that YouTube didn't have the "right and ability to control" activity that infringes for the purpose mentioned in "Section 512(c)(1)(B)", it didn't have the knowledge of specific infringements of Viacom's content mentioned in the suit, nor was it escaping liability by being wilfully blind to such specific infringements.[33]

"WIPO Internet Treaties of 1996" which include the "WCT and WPPT." WCT dealt with the protection of the works of copyright right holders in the contemporary digital environment.[34] WPPT deals with the intellectual property rights of two parties: performers which include artists like actors, singers, musicians, *inter alia* and producers of phonograms (record entities or individuals who produce or fix recorded sounds).[35]

[30] A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001).
[31] MGM Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005).
[32] Viacom Int'l, Inc. v. YouTube, Inc., 718 F. Supp. 2d 514 (S.D.N.Y. 2010).
[33] Viacom Int'l, Inc. v. YouTube, Inc., 676 F.3d 19 (2d Cir. 2012).
[34] World Intellectual Property Organization, *Summary of the WIPO Copyright Treaty (WCT)*, https://www.wipo.int/treaties/en/ip/wct/summary_wct.html (last visited Sept. 29, 2025).
[35] World Intellectual Property Organization, *WIPO Performances and Phonograms Treaty (WPPT)*, Dec. 20, 1996, https://www.wipo.int/treaties/en/ip/wppt/.

Indian Legal Framework

"The Copyright Act, 1957", "regulates copyright protection of intellectual property goods", in India. It covers original literary and dramatic works, musicals, artistic works, photographs, cinematography works and computer-generated "literary, dramatic, musical or artistic work."[36] Section 14 defines the meaning of Copyright and states the exclusive rights given as per each author.[37] For literary, dramatic or musical work, they have the rights to reproduce the work, issue copies, perform, adapt, translate and "to make any cinematograph film or sound in relation of the work." For computer programs they have the right to sell and rent any copy. For artistic works they have the right to store, depict a 2D work or a 3D work, to communicate to the public, to include the work in cinematography and to create an adaptation. For cinematograph film they have the right to make a copy, sell or rent it and communicate it to the public. For a sound recording they have the right to make any other one which embodies it, rent or sell it and communicate to the public.

Section 51 states the situations when copyright is considered to be infringed. If a person other than a copyright owner does a certain act under Section 14 which is done without a license or permission, or if someone sells, distributes or imports infringing copyrighted material for commercial purposes, or if a person who knowingly gives access to his place like a hall, cinema, or even an online platform to allow for displaying, playing, or communicating a copyrighted work to the public, it amounts to copyright infringement and the person who gave person is guilty of such infringement unless he didn't reasonably believe such situation would happen.[38]

Section 65A deals with the prevention of violation of technological measures. It specifies various processes which deal with Digital Rights Management (DRM) which include encryption. To violate this section, embarks a criminal punishment "of imprisonment up to two years and also a fine." But there is an exception that if the circumvention of such provisions is done for legitimate purposes in the eyes of law, i.e., in the interests of national security, research or interoperability, then it is valid.[39]

[36] Copyright Act, No. 14 of 1957, § 14 (India).
[37] Copyright Act, *supra* note 35, § 14.
[38] Copyright Act, No. 14 of 1957, § 51 (India).
[39] Copyright Act, No. 14 of 1957, § 65A (India).

Section 65B protects the Rights Management Information (RMI). If a person alters the information to hide any traces of piracy or distributes the copies without permission, is punished up to two years of imprisonment and a fine.[40]

Sections 55 to 58 protects the various intellectual property rights of right-owners. Section 55 gives copyright owners to resort to civil remedies like injunctions, damages and delivery of infringing copies of their works.[41] Section 56 provides for right-holders to have the ability to enforce their own rights independently and it protects this ability.[42] Section 57 grants the authors ethical rights like paternity and integrity along with their other rights which protect their copyrighted work.[43] Section 58 allows action against those people who knowingly have the infringed copies for transacting commercial purposes.[44]

Sections 63 to 70 define the criminal penalties to be imposed on the violation of the provisions enshrined in the Act.[45]

Due to the advent of internet and digital technology, the Information Technology Act, 2000 (IT Act, 2000),[46] and IT Rules of 2021 were released.[47] Section 79 of the IT Act, protects online intermediaries like YouTube for user-posted content if they follow the due-diligence rules.[48] IT Rules, 2021, provide for a provision for the intermediary to remove infringed content within thirty-six hours from receiving the receipt of the court order.[49]

There were many judicial developments which arose for implementing such provisions.

Firstly, it was Super Casettes v. Myspace (2017), in which Myspace sought protection "under Section 79 of the IT Act, 2000", which provided a "safe-harbour for online intermediaries." The Delhi Hight Court held that it cannot seek protection under Section 79 because it modified, monetized not on the basis of content, and curated infringing user uploads. Hence, Myspace was held liable for copyright infringement.[50]

[40] Copyright Act, No. 14 of 1957, § 65B (India).
[41] Copyright Act, No. 14 of 1957, § 55 (India).
[42] Copyright Act, No. 14 of 1957, § 56 (India).
[43] Copyright Act, No. 14 of 1957, § 57 (India).
[44] Copyright Act, No. 14 of 1957, § 58 (India).
[45] Copyright Act, No. 14 of 1957, §§ 63–70 (India).
[46] Information Technology Act, No. 21 of 2000 (India).
[47] Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (India).
[48] Information Technology Act, No. 21 of 2000, § 79 (India).
[49] Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, r. D (India).
[50] Super Cassettes Industries Ltd. v. Myspace, Inc., (2011) 47 PTC 25 (Del.)

In "UTV Software Communications Ltd. v. 1337X.TO", the "Delhi High Court" used an "*ex-parte"* decision to use the concept of dynamic injunction, where it was held, that the injunction owner can use it to restrict and block the websites infringing their content, instead of taking too much of the judiciary's time in filing separate suits one after the other.[51]

Contemporary Challenges

There are various enforcement challenges of various agreements which form provisions protecting an individual's IPR. There are challenges faced in enforcing the TRIPS Agreement, for protecting IPR. One of the main reasons is of its failure in developing strong policies and norms. They have been very underdeveloped and lack the potential level of impact as shown by the Paris and Bonne Conventions.[52] Some have criticized their provisions to be very ambiguous.[53] The high substantive policies of the TRIPS agreement argue for the entrepreneurs in developed countries and not of the developing countries.[54]

There is a lack of awareness among the citizens of India about IPR. Students don't know how to file patents. In spite of various schemes and programmes launched by the government, there is still lack of awareness about an individual's IPR and how to protect them, which is a reason that India lags behind many nations.[55]

In India, the Copyright Act, 1957, does not provide protection for the traditional knowledge of the Indian citizens which includes folklores and other forms of traditional media.[56]

It is difficult to recurringly adjust with new and everyday changes in technologies and hence, different changes in legal provisions related to those technological systems.

There are also exorbitant costs of monitoring and litigation observed in cases related to infringements and enforcing or protecting an individual's IPR. In Viacom Int'l, Inc. v. YouTube, Inc, "Google spent more than $100 million dollars as pre-legal fees to defend itself from Viacom", who was suing it for $1 billion dollars.[57]

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[51] *UTV Software Communications Ltd. v. 1337X.to*, AIRONLINE 2019 DEL 773.
[52] **Peter K. Yu**, "TRIPS and its Vulnerabilities," *J. Intell. Prop. L.* 18:2 (2011) 479.
[53] **J. H. Reichman**, "Enforcement Under TRIPS," 37 *Va. J. Int'l L.* (1997) 336–356.
[54] Reichman, note above, at 340.
[55] **Neeta Prasad**, "India Trails in IPR Awareness," *The Telegraph* (19 Jan. 2022).
[56] **Chahat Bhatia & Rishiraj Sharma**, "Copyright Protection in India Today," *IPR Journal, MNLU Nagpur* 1 (2023) 123.
[57] **Amir Hassanabadi**, "Viacom v. YouTube and the DMCA," 26 *Berkeley Tech. L.J.* (2011) 405–440.

Economic Impacts

Due to various violations of IPR and the existence of digital piracy and virtual counterfeiting, various monetary losses are inevitable. In 2014, $74 billion was lost due to video-game piracy.[58] Software piracy accounts for $50 billion losses, mainly from companies in Asia.[59] According to a report by the International Chamber of Commerce, the forecast of total value of infringed goods due to piracy and counterfeiting in 2022, was a combined $1.90 to $2.81 trillion. The estimated employment losses were approximately 4.2 to 5.4 million, in 2022. Hence, as a wider disastrous economic consequence, it results in loss of employment.[60]

It also results in a stride in consumer risks who use the products which have been infringed. There are malware and trojan risks from pirated files. It also applies to NFTs which are a target of counterfeit ones and often it's difficult to differentiate between the original and the counterfeited ones as fraudsters often create identical looking ones.[61]

The Way Forward

There are various pragmatic solutions to provide a comprehensive overview of how to counter such problems.

To take into account of Delhi High Court's ruling of dynamic injunction, the other courts of India should take an inspiration from this and apply faster and efficient modes of issuing injunctions to save the court's time and to ensure that justice is granted in a timely manner. In today's age where cryptocurrency is rising its ambit in a fast pace, blockchain technology should be used effectively to detect the counterfeit NFTs and to ensure more authenticity. Rather than enforcing more stronger penalties, the existing penalties should be enforced at the grassroots level to ensure that the provisions of various international and national statutes are implemented efficiently. Not only the Government of India but also the governments of other

[58] **Luke Graham**, "Can Game Piracy Be Eliminated?", *CNBC* (14 Jan. 2016)..
[59] Over $50 billion lost to software piracy: Report, *The Economic Times* (May 11, 2010), https://economictimes.indiatimes.com/tech/software/over-50-billion-lost-to-software-piracy-report/articleshow/5916715.cms.
[60] International Chamber of Commerce (ICC), *The Economic Impacts of Counterfeiting and Piracy*, (2016), available at https://iccwbo.org/wp-content/uploads/sites/3/2017/02/ICC-BASCAP-Frontier-report-2016.pdf.
[61] N. Upadhyay & S. Upadhyay, *The Dark Side of Non-Fungible Tokens: Understanding Risks in the NFT Marketplace from a Fraud Triangle Perspective*, 11 *Financ. Innov.* 62 (2025), https://doi.org/10.1186/s40854-024-00684-6.

countries should implement various educational and awareness campaigns on the grassroots level.

The use of virtual private networks (VPNs), mirror sites and torrent technology, makes it harder to track piracy. To tackle them, blockchain technology ensures that no one can tamper with the data of the user except the user himself.[62] Digital watermarking helps ensure that the goods being infringed is of the right-holder and can be differentiated easily from the tampered one, as the watermark makes it easy to flag the fake one.[63] Authentication technology can also be used to track counterfeiting.

Covert online applications having authentication technology should be adopted to ensure multi-layered verification at every step, which will prohibit virtual counterfeiting and digital piracy. This will also provide protection to the right-holder's website and the Internet Service Provider.[64]

Like stated in DMCA, DRM should be made mandatory to be gained by right-holders, in Indian legislations.

Conclusion

Protecting creative and original creations and establishments is essential. They foster societal development and in today's virtual world where digital piracy and virtual counterfeiting prevail, strong legal frameworks to be implemented at grassroots level should be established. There should be a balance between protection and accessibility. Protecting IPR should come along with the use of technological advancements like DRM and anti-piracy tools. There should be a strong international collaboration to protect IPR globally, to establish an environment where creativity fosters virtually unlike piracy and counterfeiting.

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[62] **Anthony et al.**, "Anti-Counterfeit Blockchain System," 216 *Procedia Computer Sci.* (2023) 86.
[63] ScienceDirect, *Watermarking*, https://www.sciencedirect.com/topics/computer-science/watermarking (last visited Sept. 29, 2025).
[64] Ian M. Lancaster, *The Role of Authentication Technologies in Combating Counterfeiting*, WIPO Magazine (Apr. 14, 2006), https://www.wipo.int/web/wipo-magazine/articles/the-role-of-authentication-technologies-in-combating-counterfeiting-35166.

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Branding Beyond Reality: The Indian Trademark Horizon in the Metaverse

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Introduction

When you shop for virtual clothes, celebrate Diwali online, or attend a virtual concert, you are participating in the new digital world, where you need legal protection for your digital products and virtual goods. The emergence of the metaverse has opened a lot of opportunities for companies at large, many companies have changed their way of building and protecting their brands. It has created a parallel digital environment where people can have the same interaction with products and services as they have in the tangible world. In this digital realm, words, brands, design, logos, and brand names are not only limited to the actual world or in the form of tangible goods but also in the form of virtual avatars, virtual clothing, and online marketplace, with the expansion of NFTs, known as non-fungible tokens, a unique digital certificate preserved on the blockchain that proves the ownership and authenticity of a particular digital asset, which cannot be copied or replaced by another token.[2] For example, Tata Tea Premium launched a virtual Holi experience in the metaverse and took the steps for trademark registration of their brand in the metaverse, showing how important it is to safeguard the brands in the digital world.[3] There are a lot of different brands as well who have already taken steps to protect their brands in the metaverse. In India, issues related to trademark are governed under the Trademarks Act 1999, which also includes a legal framework for the registration of the brands in the virtual world.[4] India follows the Nice classification, which is an international system that categorizes trademarks into 45 classes,

[1] 2nd year, Army Institute of Law, Mohali.
[2]NFT, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/NFT (last visited Sept. 30, 2025).
[3]Tata Tea Premium Launches 'Meethi Holi' Virtual Experience in the Metaverse, BUSINESS STANDARD,https://www.business-standard.com/article/companies/tata-tea-premium-launches-meethi-holi-virtual-experience-in-the-metaverse-122031800514_1.html (last visited Sept. 12, 2025).
[4]The Trademarks Act, No. 47 of 1999, INDIA CODE (1999).

separating goods from Classes 1–34 and services from Classes 35–45. Indian regulation follows this system under the Trademarks Act, 1999, to ensure consistent classification and registration of trademarks.[5] However, these legal frameworks are still in their early stages, and India lacks clear guidelines designed for the metaverse.[6] But, countries like the USA and the EU have already taken steps to protect their digital assets and goods in the virtual environment. Comparing it to the other countries, where these laws are much more evolved and protected as compared to India, regulations in India are still at their initial level; that is why the brands face challenges such as classification ambiguities, enforcement difficulties, and uncertainty over infringement in virtual environments and many other problems.[7] This paper aims to highlight that even if there are laws present in the Indian legal framework, they are new and not well regulated, and these frameworks are still not sufficient to resolve the issues of branding and trademark in the metaverse. Further, this paper also aims to discuss some of the suggestions that can help the companies or the brand owners to protect their brands and digital assets in the metaverse.

The Realm of Trademark in India

A trademark is an essential tool that distinguishes the goods or services belonging to one brand from those of others.[8] Its main purpose is to protect the consumer from any confusion regarding some goods and services and to ensure the protection and the reputation and goodwill of the brand.[9] Trademarks are not restricted to logos or brand names solely, but they also represent the entire identity of a business and establish credibility between the consumer and the product.[10] In India, the legal framework governing trademark-related laws is given under the Trademarks Act, 1999, which includes extensive provisions relating to registration, protection, and enforcement of

[5]Nice Classification (NCL), 12th ed., World Intell. Prop. Org. (2023), https://www.wipo.int/classifications/nice/en/ (last visited Sept. 12, 2025).
[6]Prashant Reddy & Sumathi Chandrasekaran, Trademarking the Metaverse: India's Legal Lag, 28 J. Intell. Prop. Rts. 115, 118–20 (2023).
[7]Moushami Joshi & Shruti Sharma, Metaverse and Intellectual Property Rights: The Legal Grey Areas in India, MONDAQ,https://www.mondaq.com/india/trademark/1258264/metaverse-and-intellectual-property-rights-the-legal-grey-areas-in-india (last visited Sept. 12, 2025).
[8]The Trademarks Act, No. 47 of 1999 § 2(1)(zb) (India) (1999), https://www.indiacode.nic.in/handle/123456789/1997 (last visited Sept. 12, 2025).
[9]*Trademarks Act, 1999*, No. 47 of 1999, India Code (1999), § 29..
[10]Pratibha Singh, Trademark Protection in India: Balancing Private Rights and Public Interest, 5 NALSAR L.J. 73, 75–76 (2010).

trademark rights.[11] These statutes are also enhanced by the Trademarks Rules, 2002, which do provide detailed procedural guidelines on registrations and enforcement.[12] The Trademark Act 1999 generally includes words, logos, symbols, shapes of goods, packaging, or even combinations of colors. Once the trademark is registered, it grants the rightful owner an exclusive right over his products or services, also safeguarding his rights to take legal action against the infringement under the provision of the above-mentioned act.

The procedure of registration has been clearly laid down under the Trademark Act, 1999. The person can claim to be the proprietor of a mark or logo to apply for the registration of its brand.[13]Once the application is accepted, it must be advertised,[14] which further gives the public an opportunity to oppose the registration of the brand.[15] If there is no opposition filed against the product and services, only then can the owner register the trademark;[16] further, the proprietor enjoys the exclusive rights of the trademark for the next 10 years.[17] After this, owner deals extensively with trademark infringement,[18] which states that a registered trademark is infringed when a person uses a mark identical or deceptively like a registered mark in a way that causes confusion among the public or dilutes the distinctiveness or reputation of the registered mark. The remedies for infringement are also given, including injunctions to stop it.[19]Thus, the Trademarks Act, 1999, provides a comprehensive framework to protect brand identity in the physical world. But in the 21st century, the trademark issues are not just limited to the physical world but also to the virtual world as well, but before discussing how the trademark laws govern the virtual environment, it is important to recognize how the trademark laws are well structured in the physical world. Trademarks safeguard consumer trust by denoting origin and authenticity, helping avoid confusion and protecting brand identity.[20] However, while clear in the physical marketplace,

[11]The Trademark Act, No.47 of 1999, chs. IV–VII (India) (1999), https://www.indiacode.nic.in/handle/123456789/1997 (last visited Sept. 12, 2025).
[12]The Trademarks Rules, 2002, Gazette of India, pt. II, sec. 3(i) (India), Mar. 26, 2002, https://www.indiacode.nic.in/handle/123456789/1748 (last visited Sept. 12, 2025).
[13]The Trademarks Act, No. 47 of 1999, § 18 (India) (1999).
[14]*Id.* § 20.
[15]*Id.* § 21, INDIA CODE (1999), https://www.indiacode.nic.in/handle/123456789/1997 (last visited Sept. 12, 2025).
[16]*Id.* § 22.
[17]*Id.* § 25.
[18]*Id.* § 29.
[19]*Id.* § 135.
[20]4 J. Thomas McCarthy, McCarthy on Trademarks and Unfair Competition § 2:14 (5th ed. 2023).

trademark enforcement in the virtual world remains uncertain, leading to risks of unauthorized use and consumer confusion.[21]

Furthermore, the Trademarks Act, 1999, was initially enacted to address trademark infringement issues confined to the physical world. However, with the gradual emergence of the Metaverse, instances of trademark infringement began appearing in virtual environments as well, where logos, brands, or marks belonging to different companies were being used without authorization, often for commercial gain. Such practices are unfair to the rightful owners of these marks. The present issues have not gone unnoticed; countries such as the USA[22] and members of the EU[23] have already implemented regulations to protect brands in digital space. In the Indian context, trademark infringement issues in the virtual world are also being acknowledged. India follows the internationally recognized Nice Classification (NCL), which divides trademarks into 45 classes Classes 1 to 34 for goods and Classes 35 to 45 for service also while filing a trademark application under the Trademarks Act, 1999, the applicant must first identify the correct class based on the nature of goods or services, since protection is granted only for the class applied, this classification helps avoid overlapping, ensures proper examination by the Trade Marks Registry, and provides clarity in case of dispute. Now in the context of the metaverse, businesses often register trademarks in Class 9 for software and digital goods, Class 35 for online marketplaces, and Class 41 for virtual entertainment or educational services.[24] For example, companies like Infosys and Mahindra & Mahindra have begun registering their NFTs under Class 9, which covers virtual goods, demonstrating the growing importance of NFTs and trademark protection in digital environments. Nevertheless, despite the existence of relevant laws, constant challenges remain, including the ambiguities in classification, difficulties in the enforcement, and uncertainty related to the application of infringement rules in virtual spaces, all of which is needed to be addressed.[25]

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[21]Stacey L. Dogan & Mark A. Lemley, Trademarks and Consumer Search Costs on the Internet, 41 Hous. L. Rev. 777, 779–80 (2004).

[22]U.S. Patent & Trademark Office, Trademarks in the Metaverse, https://www.uspto.gov/trademarks/metaverse (last visited Sept. 12, 2025).

[23]European Union Intellectual Property Office, Trademarks and Digital Environments, https://euipo.europa.eu/ohimportal/en/trademarks (last visited Sept. 12, 2025).

[24]Nice Classification (NCL), 12th ed., World Intellectual Prop. Org. (2023), https://www.wipo.int/classifications/nice/en/ (last visited Sept. 12, 2025).

[25] World Intellectual Prop. Org. (WIPO), *Trademarks and NFTs*, https://www.wipo.int/trademarks/en/(last visited Sept. 12, 2025).

Metaverse Branding: An Indian Perspective

Branding is the process of giving a product or company its own distinct identity, which differentiates it apart from others and promotes a connection with consumers. It involves not only logos and names but also the feelings and trust that customers associate with the brand.[26] The metaverse, on the other hand, is a very vast and growing digital universe where people interact through avatars in virtual spaces they can shop, socialize, attend events, and explore different worlds, all online. Today, this digital realm is becoming a hotspot for brands as they look beyond traditional marketing methods to create new form of immersive experiences. Brands are building virtual stores, hosting events, and offering digital products to engage users in ways that feel private and innovative. The current scenario reveals a rapidly growing trend, where companies across various industries, from fashion to sports to entertainment, are investing heavily in the metaverse to reach younger, tech-savvy audiences and unlock new opportunities for creativity and connection.[27] This evolved combination of branding and the metaverse is shaping the future of consumer engagement, where the line between the real and digital worlds continues to blur.

Metaverse Branding: Challenges for Indian Trademarks

Now, the main question arises: if this is the situation wherein the laws and registration process are mentioned, then what are the challenges India is facing even after the laws and regulations are prescribed? The real question is, do the laws exist, why are they not implemented properly, and what challenges are there? Now, the first problem, which is generally faced by brands or companies, is

1. **Lack of jurisdictional clarity**

Companies and brands that have enterprises in the digital environment and virtual marketplace have encountered a lot of unsolved problems regarding jurisdictional clarity under laws and regulations governing the trademark rights in the virtual marketplace. In the physical world, under

[26]Kevin Lane Keller, *Strategic Brand Management: Building, Measuring, and Managing Brand Equity* 3d ed.
[27]McKinsey & Company, *The Metaverse: Business Opportunities and Strategic Implications* (2022), https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-metaverse-business-opportunities-and-strategic-implications (last visited Sept. 25, 2025).

the Trademarks Act 1999, cases regarding jurisdictional infringement are mainly addressed under Section 134,[28] where the owner of the trademark lives, does business, or where the dispute occurred. But the laws are mainly designed for the problems in the physical world, which creates difficulties for brands in virtual places like the metaverse, which don't have specified geographical boundaries. In the virtual world, due to no clear geographical boundaries, the identification of the infringers becomes difficult for the brand owner to identify. A lot of challenges occur in enforcing the trademark rights in the digital world due to the decentralized nature of the platform, unauthorized use of the platform, and problems related to counterfeiting.[29] This leads to risk of challenges such as consumer confusion and financial losses to the rightful owner.[30] Also, the existing Indian laws are still in their initial phases and not addressed these problems properly.

2. Unauthorized use of the trademark in the metaverse

As the virtual world and metaverse are generally decentralized, it becomes very easy for the individuals in the metaverse to exploit the logos, brand names, and designs protected under the Trademark Act, 1999.[31] Sometimes, these misuses can lead to various forms, like counterfeit virtual goods and the unauthorized sale of NFTs resembling products, including the case where people in the metaverse have established whole new stores in the name of the reputed company. From the jurisdictional perspective, Section 29(1) of the Trade Mark Act, 1999, states, "A registered trademark is infringed by a person who, not being a registered proprietor or a person using by way of permitted use, uses in the course of trade a mark that is identical with or deceptively similar to the trademark in relation to goods or services in respect of which the trademark is registered and in such a manner as to render the use of the mark likely to be taken as being used as a trademark,"[32] but implementation of the same in the virtual world becomes

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[28] The Trademarks Act, No. 47 of 1999, § 134, INDIA CODE (1999), https://www.indiacode.nic.in/handle/123456789/1997(last visited Sept. 25, 2025).

[29] Moushami Joshi & Shruti Sharma, *Metaverse and Intellectual Property Rights: The Legal Grey Areas in India*, MONDAQ,https://www.mondaq.com/india/trademark/1258264/metaverse-and-intellectual-property-rights-the-legal-grey-areas-in-india (last visited Sept. 25, 2025).

[30] Dev S. Gangjee, *The Consumer Interest in Trademark Law*, 39 Oxford J. Legal Stud**.** 511, 512–15 (2019).

[31] World Intellectual Prop. Org. (WIPO)**,** *Trademarks and NFTs*, https://www.wipo.int/trademarks/en(last visited Sept. 25, 2025).

[32]The Trademarks Act, No. 47 of 1999, § 29(1), INDIA CODE (1999).

difficult. Apart from uncertainties in judicial interpretations, the validity of the digitally presented evidence still poses a challenge. Under Indian law, Section 65B of the Indian Evidence Act, 1872, recognizes electronic records, but the court present in India does not have any clear rules regarding the blockchain transaction and smart contract as proof.[33] As there is no established procedure given to collect and give this kind of proof, company owners often face difficulties in getting the court order, like injunctions. The delays make it harder to solve this problem in the virtual world.

3. Cross-platform enforcement across the different platforms of the metaverse

When the infringement is established, there is no uniform procedure present to address the issues, although the registration process of the trademark in the metaverse is given under law, but there is no mention of the ways to counter the infringement in the metaverse.[34] Each platform have its own distinct terms of service and internal dispute resolution procedure, often independent of the Indian judicial authorities.[35] As a result, Indian brand owners have uncertainty in enforcing their rights when they face infringement in the metaverse, and it takes them a long time to understand and take legal action. These hurdles pose a challenge for the brand owners to protect their brand effectively in the metaverse. A very famous instance of this was in 2022, when the big luxury fashion brand Gucci sued a virtual sneaker company, StockX, for selling unauthorized Gucci sneakers in the virtual world.[36] Now similar kinds of instances are present on the different metaverse platforms as well, where Gucci cannot take direct legal action against the infringers. While Indian courts recognize electronic records as evidence, the absence of cross-platform enforcement standards poses a substantive hurdle in promptly restraining infringing activity in fast-evolving virtual marketplaces. Lastly, the absence of clear laws for jurisdiction and proof from blockchain transactions, as well as cross-platform enforcement, leaves the Indian company owners vulnerable to misuse of their trademarks in the digital workplaces, which makes it another drawback for the enforcement of trademark rights in the metaverse.[37]

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[33] *Id.* § 29(1).
[34] *Id.* § 65B.
[35] Moushami Joshi & Shruti Sharma, *Metaverse and Intellectual Property Rights: The Legal Grey Areas in India*, MONDAQ,https://www.mondaq.com/india/trademark/1258264/metaverse-and-intellectual-property-rights-the-legal-grey-areas-in-india (last visited Sept. 25, 2025).
[36] Nike, Inc. v. StockX LLC, No. 22 Civ. 983 (VM), 2023 WL 2139675(2022).
[37] Moushami Joshi & Shruti Sharma, MONDAQ (last visited Sept. 25, 2025).

Case Study Analysis

An analysis of the challenge of trademark infringement in the virtual environment would not be complete without discussing the leading case law analysis to give us a clearer picture. The following examples and cases will help us understand the whole picture

1. **Gucci v. StockX LLC**

Gucci is a prestigious luxury fashion house, which can be a very good example under the Indian legal framework. Gucci had filed a legal action against StockX for unauthorized selling of digital sneakers as NFTs featuring Gucci's trademarks. The present case brought critical issues, such as digital counterfeiting, within the virtual workplace. Given the decentralized and global nature of the virtual platform, there were a lot of problems faced by the brand, such as difficulty in securing effective cross-platform injunction, etc.[38] This case shows how the luxury brands in India face so many problems in the metaverse. It becomes difficult because it's not clear in the scenario which country's law would be applicable, and there is no global enforcement measure available to solve the problem. So, even if a brand wins one case at one place, there might be a situation where copies of the same products are available elsewhere online, making the enforcement tricky for the brand owner. Although the case has not yet settled a comprehensive legal precedent, this case demonstrates the urgent need for better legal enforcement measures for the virtual environment. This ongoing case is an example for the Indian luxury brands to register their product in the virtual marketplaces to protect their trademark in the digital world.

2. **Hermès v. MetaBirkins**

The luxury brand Hermès sued the Mathon Roschild because he made and sold the NFTs, which show the Birkin bags covered in the fur called "MetaBirkins". Hermès argued that the NFTs have confused consumers, weakened the uniqueness of the brand, and harmed its reputation. The U.S. Court gave the judgment in favor of the brand Hermès and stated that the trademark of one brand should have protection in the virtual world; a digital artist cannot misuse the brand names by

[38] *Gucci Am., Inc. v. StockX LLC*, No. 1:22-cv-0018(2022).

calling them their own.[39] This decision is very significant in the context of India because this case shows that the courts in other parts of the world are updating the old trademark law and bringing up the new updated laws under trademark to protect the brand trademark in the digital world. India should take lessons and strengthen their laws on trademarks.

3. Nike v. StockX

Nike sued the online marketplace StockX for selling Nike sneakers in the virtual marketplace without authorization. The company argued that NFTs can mislead consumers into thinking that Nike intentionally harms the brand's image. This case highlights the emergence of more virtual common in the digital marketplace, and it also shows how there is a need for a proper legal mechanism to solve similar issues.[40]

Recommendations For Trademark Protection in the Metaverse

After reviewing the case study analysis of the trademark-related infringement in the metaverse, it's important to understand the possible suggestions that could protect the brand's trademark in the metaverse. In the present time, there are well-defined laws for trademark infringement in the metaverse, but talking about the metaverse, the nature of the metaverse is more decentralized, so the question arises as to which country's law would be applicable when there is an infringement of the trademark in the metaverse.[41] Law-related registration of the trademark in the metaverse is present but not well defined in India. First, India must establish clear jurisdictional guidelines specifically addressing trademark-related infringement in the metaverse.[42] The legal framework should be enforced so that it would be clearer as to which court has jurisdiction to deal with the cases. Amending the Trademarks Act 1999 could be one of the suggestions, which can include explicit provisions that will define how jurisdiction is determined in virtual marketplaces and would provide more clarity and enable an effective and faster enforcement of trademark protection in the metaverse. Secondly, India needs stronger legal rules for presenting blockchain and NFT

[39]Hermès Int'l v. Rothschild, No. 1:22-cv-03204 (S.D.N.Y. 2022).
[40]Nike, Inc. v. StockX LLC, No. 2:21-cv-11144 (E.D. Mich. 2022).
[41]Hermès Int'l v. Rothschild, No. 1:22-cv-03204, S.D.N.Y. (2022).
[42]Nike, Inc. v. StockX LLC, No. 2:21-cv-11144, E.D. Mich. (2022).

transactions as legal evidence in the metaverse. Although Section 65B of the Evidence Act acknowledges electronic records, there are no defined procedures for proving blockchain records or smart contracts. Introducing proper guidelines for collecting and authenticating such evidence will make trademark-related protection in the metaverse faster and more powerful.[43]

Lastly, India should establish a specialized and proper Online Dispute Resolution (ODR) mechanism to address the problems of trademark infringement in the metaverse.[44] This platform would enable brand owners to swiftly file complaints, and this system would help the brand owners get the infringing content or fake virtual goods removed as quickly as possible, without a long court procedure. Integrating such a system within the Trademarks Act 1999, would make enforcement quicker, more cost-effective, and more convenient for Indian brands in the metaverse.

Conclusion

The evolution of the metaverse is at its peak, well-structured laws and regulations are present for trademark infringement in the metaverse, but as the brands shift more towards the virtual marketplaces, the shortcomings of existing trademark laws become blatantly obvious. Without well-defined mechanisms for jurisdiction, recognition of blockchain evidence, and online dispute resolution, brand integrity and consumer trust will remain at risk. This smart and integrated method would protect the Indian brands worldwide and give India protection for its trademark in the metaverse. As the metaverse expands, Indian trademark laws should also evolve to address the unique kind of digital challenges like counterfeiting in the virtual world and unauthorized use across the decentralized platform of the virtual marketplace. Updating laws must also cover NFTs and blockchain-based digital assets, which will be better in protecting the brand owners' interests in the trademark-related infringement and ensuring their trademarks retain value online. Cooperation among the lawmakers, tech experts, and businesses will build up a legal system that encourages innovation while effectively safeguarding the intellectual property rights of the brand owners in virtual worlds.

[43] Indian Evidence Act, No. 1 of 1872, § 65B (India).
[44] Sanchita Basu Das, Online Dispute Resolution in India: Prospects and Challenges, 12 *J. Indian L. & Soc'y* 45 (2021).