The Indian Journal for Research in Law and Management

Open Access Law Journal – Copyright © 2025

Editor-in-Chief – Dr. Muktai Deb Chavan; Publisher – Alden Vas; ISSN: 2583-9896

Is Indian Intellectual Property Law Ready for the Metaverse? Challenges, Gaps, and the Way Forward

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Abstract

The metaverse is rapidly evolving from science fiction into a vibrant, immersive digital world where people work, socialize, shop, and create. This shift is putting serious pressure on traditional intellectual property laws. This poses a pressing question: Is Indian IP law truly ready for the metaverse? India's legal framework built around the Copyright Act, 1957, the Trade Marks Act, 1999, and court-developed protections for personality rights has served the country well in the internet era. However, the metaverse brings new complications: user-generated 3D content, virtual replicas of real-world brands, celebrity avatars and deepfakes, NFTs that blur ownership lines, and the borderless nature of virtual environments. A comparative look at how the United States, European Union, and Singapore are responding reveals important differences. While the US relies on forward-looking court decisions and USPTO guidance, the EU emphasizes harmonized rules and platform accountability, and Singapore focuses on practical, innovation-friendly policies, India still largely depends on existing statutes and judicial creativity. Though this approach offers flexibility, it also creates uncertainty as the metaverse scales. Ultimately, Indian IP law provides a decent foundation but falls short of what is needed for full readiness. It concludes with practical recommendations from legislative updates and clear IPO guidelines to better platform rules, capacity building, and international cooperation. If India acts decisively, it can protect creators and brands while

unlocking significant economic and cultural opportunities in this emerging trillion-dollar space. The metaverse is already here; the real question is whether our laws will keep pace.

Introduction

The metaverse represents a convergence of physical and digital realities, promising immersive experiences where users interact via avatars, own virtual land, attend concerts, and trade digital assets. As global brands and creators venture into this space, intellectual property (IP) laws face unprecedented tests. India, with its robust IT sector and growing digital economy, stands at a critical juncture. While its IP framework rooted in the Copyright Act, 1957, Trade Marks Act, 1999, and other statutes has adapted to the internet age, the metaverse introduces complexities like user-generated content (UGC), non-fungible tokens (NFTs), virtual goods, and borderless enforcement.

This examines whether Indian IP law is prepared for these challenges. It explores key issues in copyright, trademarks, personality rights, NFTs, jurisdiction, and enforcement, offers a comparative lens with the USA, EU, and Singapore, assesses readiness, and provides recommendations. The metaverse is not a distant future; with platforms like Decentral and, Roblox, and emerging Indian initiatives, proactive legal evolution is essential to foster innovation while protecting rights.

Understanding the Metaverse

The metaverse is a persistent, shared, 3D virtual space where users interact through avatars in real-time. It blends augmented reality (AR), virtual reality (VR), blockchain, and social elements. Key features include interoperability, economic systems (virtual currencies and assets), and UGC.

Economically, the metaverse is projected to generate trillions in value. In India, with a massive internet user base and booming gaming industry, adoption is accelerating. However, this growth amplifies IP risks: digital replicas of real-world brands, unauthorized avatar customizations, and

NFT minting of protected works. Existing laws apply, but their interpretation in immersive, decentralized environments remains largely untested.

Primary Challenges -

Copyright Challenges:

Copyright protects original works under the Indian Copyright Act, 1957. In the metaverse, challenges stem from UGC, digital reproductions, and derivative works. Creators upload 3D models, animations, and environments daily. Reproducing a physical artwork as a virtual sculpture or remixing music in virtual concerts could infringe reproduction, adaptation, or communication rights.

NFTs add complexity: Minting certifies token ownership but not underlying copyright. Indian law requires explicit licensing; NFT purchases often grant only limited display rights. Platforms face safe harbor issues under the IT Act, yet proactive moderation is needed. Gaps include AI-generated works, virtual creations, and enforcement against anonymous users. Moral rights under Section 57 offer some protection against derogatory modifications.

Trademark Challenges:

Trademarks safeguard brand identity under the Trade Marks Act, 1999. Virtual counterfeiting digital logos on avatars or stores raises confusion and dilution concerns.

Indian brands must file for virtual extensions. Well-known marks provide broader protection, but proving infringement in immersive spaces is challenging. No major Indian precedents exist, unlike global cases. Territoriality limits cross-border enforcement.

Personality Rights and Avatars:

Personality rights in India, though not statutorily codified in a single legislation, have evolved robustly through judicial precedents, drawing from common law principles, Article 21 of the Constitution (right to life and personal liberty, encompassing privacy and dignity), and provisions under the Copyright Act for moral rights. Landmark cases such as *Amitabh Bachchan*, *Karan Johar, Anil Kapoor* and more recent ones involving celebrities have affirmed the right to control commercial exploitation of one's name, likeness, image, voice, and persona.

In the metaverse, these rights face amplified threats. Unauthorized celebrity avatars, deepfakes, voice cloning, and digital twins enable immersive misuse that can cause reputational harm, emotional distress, and economic loss. For instance, Delhi High Court rulings in 2025 protected Aishwarya Rai Bachchan against AI-generated deepfakes and inappropriate chatbots using her likeness, issuing broad injunctions against platforms for commercial or personal exploitation via AI, generative tools, and face morphing. Similarly, the Bombay High Court in *Arijit Singh v. Codible Ventures (2024)* extended protections to voice, mannerisms, and digital avatars across physical, digital, and metaverse contexts, granting interim injunctions covering AI tools and virtual representations.

Avatars in virtual worlds often lack independent legal personhood, raising complex questions about liability. Harmful actions by avatars defamation, fraud, or IP infringement typically pierce the “veil” to hold real-world users accountable, but enforcement is difficult due to anonymity and pseudonymity. Scholars advocate for potential legal personality for sophisticated AI avatars, akin to corporate entities, to address rights and responsibilities in decentralized environments.

The Digital Personal Data Protection Act, 2023, offers indirect support by treating unauthorized alterations (deepfakes) as data breaches, but gaps persist in metaverse-specific guidelines for consent, commercial use, and cross-platform takedowns. Without dedicated legislation, reliance on ex-parte injunctions and judicial activism provides interim relief but creates uncertainty for platforms, creators, and users. As metaverse adoption grows in India’s gaming and entertainment sectors, clearer frameworks are essential to balance innovation with dignity and economic rights.

NFTs and Digital Ownership:

NFTs leverage blockchain technology to provide verifiable scarcity and provenance for digital assets, transforming ownership models in art, collectibles, virtual real estate, and gaming items. In India, NFTs are classified as virtual digital assets under the Income Tax Act, 1961, attracting a 30% tax on transfers, but lack comprehensive dedicated regulation under IP or property laws.

The core challenge lies in the disconnect between token ownership and underlying IP rights. Purchasing an NFT typically grants a limited license for display or personal use but does not automatically transfer copyright, moral rights, or reproduction rights under the Copyright Act, 1957. Smart contracts can embed royalty mechanisms, yet their enforceability across platforms remains uncertain without explicit written assignments, as mandated by Indian copyright law. Provenance disputes, unauthorized minting of protected works and "copy-paste" infringements undermine trust in the ecosystem.

Jurisdiction and Enforcement

Borderless metaverses conflict with territorial IP laws. Indian courts may claim jurisdiction based on harm to Indian users or IT Act provisions. Enforcement depends on platform cooperation, international treaties (Berne, TRIPS), and blockchain tracing, but faces hurdles in identifying infringers and executing judgments.

Comparative Analysis

A detailed comparative analysis reveals varying degrees of preparedness across jurisdictions, highlighting best practices and gaps relative to India.

USA: The United States has been notably proactive.

The USPTO (United States Patent and Trademark Office) accepts trademark applications for virtual goods, treating them as goods under the Lanham Act. Acceptable identifications include "downloadable virtual goods in the nature of image files of sunglasses... for use in online virtual worlds" (Class 9), online retail services for virtual goods (Class 35), and entertainment services providing non-downloadable virtual items (Class 41). Landmark cases provide judicial guidance: In *Hermès v. Rothschild* the court held NFTs imitating luxury handbags constituted trademark infringement, rejecting First Amendment artistic expression defenses where commercial confusion was evident. Similarly, *Nike v. StockX* and *Yuga Labs v. Ripps* (2025 Ninth Circuit) affirmed NFTs as "goods," enabling infringement claims. Strong fair use doctrines and judicial precedents offer flexibility, though challenges remain in distinguishing parody from dilution.

This case-driven, adaptive approach contrasts with India's lack of specific precedents or USPTO-style guidance.

EU: The European Union emphasizes harmonization and consumer protection.

The EUIPO has issued specific guidelines: Virtual goods are classified as digital content in Class 9 and must be specified (e.g., "downloadable virtual goods, namely, virtual clothing"); standalone "virtual goods" or "NFTs" lack clarity and precision. The 12th edition of the Nice Classification explicitly supports virtual world registrations. The Digital Services Act (DSA) strengthens platform liability for UGC and infringements, while GDPR adds data privacy layers relevant to avatars and personalization. The European Parliament's 2024 Resolution affirms that existing IP law (including trademarks, copyrights, and designs) fully applies to virtual worlds. Moral rights are robust, aiding protection against derogatory virtual modifications. Compared to India, the EU's structured guidelines, proactive classification updates, and emphasis on enforcement mechanisms provide greater certainty, though cross-border coordination within the bloc adds complexity.

Singapore: Singapore adopts a forward-looking, innovation-friendly stance.

IPOS has issued circulars on classification practices for NFTs and metaverse-related goods/services, approving detailed specifications similar to the USPTO and EUIPO. It supports filings for virtual goods, services in virtual environments, and blockchain assets, with a focus on clarity. Strong enforcement traditions, efficient dispute resolution, and alignment with international standards (e.g., TRIPS) make it attractive for tech and IP-intensive firms. Singapore balances protection with ease of doing business, including regulatory sandboxes. Relative to India, Singapore demonstrates faster administrative adaptation and policy clarity, positioning itself as a regional hub without overhauling core statutes.

India: India relies primarily on existing statutes the Copyright Act, 1957, and Trade Marks Act, 1999 without dedicated metaverse amendments.

Brands like Ajio have filed for virtual goods under existing classes (e.g., Class 9 and 41), showing proactive awareness, but there is no official IPO guidance equivalent to the USPTO or

EUIPO. Judicial activism (e.g., on personality rights) and TRIPS compliance provides a base, yet gaps persist: no explicit virtual goods classification mandates, limited precedents on metaverse infringement, slower legislative response, and challenges in cross-border enforcement. While India's framework can stretch via interpretation, it lags in specificity and administrative support compared to the USA's case law, EU's harmonized guidelines, and Singapore's agile policies.

Overall, the USA excels in judicial flexibility, the EU in regulatory harmonization and clarity, and Singapore in practical innovation support. India's strengths lie in its large digital market and adaptable judiciary, but it requires accelerated updates to close the readiness gap.

Is Indian IP Law Ready

Indian IP law provides a foundational base but is not fully prepared for the metaverse's unique demands. Statutes like the Copyright Act, 1957, and Trade Marks Act, 1999, are technologically neutral enough to apply via judicial interpretation covering reproduction in virtual spaces, trademark confusion in immersive environments, and personality rights through constitutional lenses. Judicial activism has filled gaps effectively in cases involving deepfakes and celebrity likenesses, demonstrating flexibility.

However, significant shortcomings persist. There is a lack of specific provisions or guidelines for virtual goods classification, NFT licensing, AI-generated content, avatar liabilities, and cross-border enforcement. Reliance on reactive litigation leads to uncertainty, high costs, and inconsistent outcomes, potentially deterring investment and innovation. Compared to proactive peers, India lags in administrative support (e.g., no IPO circulars like IPOS or EUIPO) and legislative updates, despite its ambitious Digital India and gaming sector goals.

While TRIPS compliance and a vibrant judiciary are strengths, the absence of regulatory sandboxes, dedicated metaverse policies, and capacity building risks India becoming a consumer rather than a leader in virtual economies. Readiness is partial: sufficient for early-stage issues but inadequate for scaled, decentralized adoption. Legislative and policy interventions are urgent to convert potential into progress.

Recommendations

The metaverse presents unique opportunities for economic growth in India, but conventional IP frameworks designed for physical and traditional digital assets fall short in addressing its decentralized, immersive, and borderless nature. Current laws can be extended through judicial interpretation, yet this reactive approach risks uncertainty, prolonged litigation, and missed innovation potential. Policymakers, regulators (such as DPIIT and the Intellectual Property Office), industry stakeholders, and legal experts must collaborate to create flexible, forward-looking mechanisms. This includes legislative amendments, administrative guidelines, capacity building, and international alignment. Such reforms would not only protect creators and brands but also position India as a competitive player in the global virtual economy. Drawing from global practices and Indian-specific analyses, the following targeted recommendations provide a practical roadmap.

- **Amendments and Guidelines**: Update the Trade Marks Act, 1999, and Copyright Act, 1957, to explicitly recognize virtual goods, services, and avatars. Issue comprehensive DPIIT/IPO guidelines on metaverse IP, NFTs, UGC moderation, and AI-generated content to provide clarity and reduce litigation.
- **Registration Incentives**: Introduce fast-track processes and incentives for registering virtual extensions of trademarks (e.g., in adapted Nice classes). Launch awareness campaigns encouraging Indian brands and creators to proactively secure rights in virtual spaces.
- **Platform Rules**: Strengthen intermediary due diligence requirements under the Information Technology Rules for UGC, NFT marketplaces, and virtual platforms. Mandate robust content moderation tools and transparent reporting mechanisms to minimize infringement while preserving safe harbor protections.
- **Personality Rights Codification**: Enact dedicated legislation or amendments codifying personality rights in digital and virtual environments, including clear provisions for consent, commercial exploitation, deepfakes, and postmortem protections for heirs.
- **International Cooperation**: Actively participate in WIPO initiatives for harmonizing metaverse IP standards. Pursue bilateral/multilateral enforcement pacts and mutual recognition agreements to address cross-border challenges effectively.

- **Capacity Building**: Invest in training programs for judiciary, lawyers, IP examiners, and law enforcement on metaverse technologies, blockchain, and virtual asset disputes. Promote the use of blockchain for IP registries and alternative dispute resolution mechanisms.
- **Sandboxes and Research**: Establish regulatory sandboxes for testing metaverse IP frameworks in collaboration with tech firms and startups. Fund academic and policy research on emerging issues like interoperability, virtual taxation, and economic impacts to inform evidence-based policymaking.

Conclusion;

The metaverse demands flexible yet robust IP laws that can keep pace with rapid technological evolution while safeguarding creators, brands, and users. Indian law offers a solid foundation through established statutes, judicial precedents on personality rights, and constitutional protections, but it requires targeted reforms in ownership models (especially for NFTs), enforcement mechanisms for borderless disputes, and specific guidelines for virtual assets and avatars. The challenges ranging from deepfake misuse and classification ambiguities to jurisdictional complexities highlight the limitations of a purely interpretive approach.

By learning from global leaders like the USA's case-driven adaptability, the EU's harmonized guidelines, and Singapore's innovation-friendly policies, India can bridge its gaps effectively. Leveraging its vast digital talent pool, booming tech ecosystem, and policy initiatives like Digital India, the country has the potential to emerge as a metaverse innovator rather than a follower. Collaborative policymaking involving DPIIT, IPO, judiciary, industry, and academia through amendments, sandboxes, international pacts, and capacity building will be key.

Ultimately, proactive adaptation will not only mitigate risks of litigation and economic leakage but also unlock cultural, creative, and commercial opportunities in this new frontier. Failure to act swiftly could stifle growth and innovation; bold, forward-looking reforms promise substantial dividends for India's digital future, ensuring that the metaverse benefits creators, consumers, and the economy at large.

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