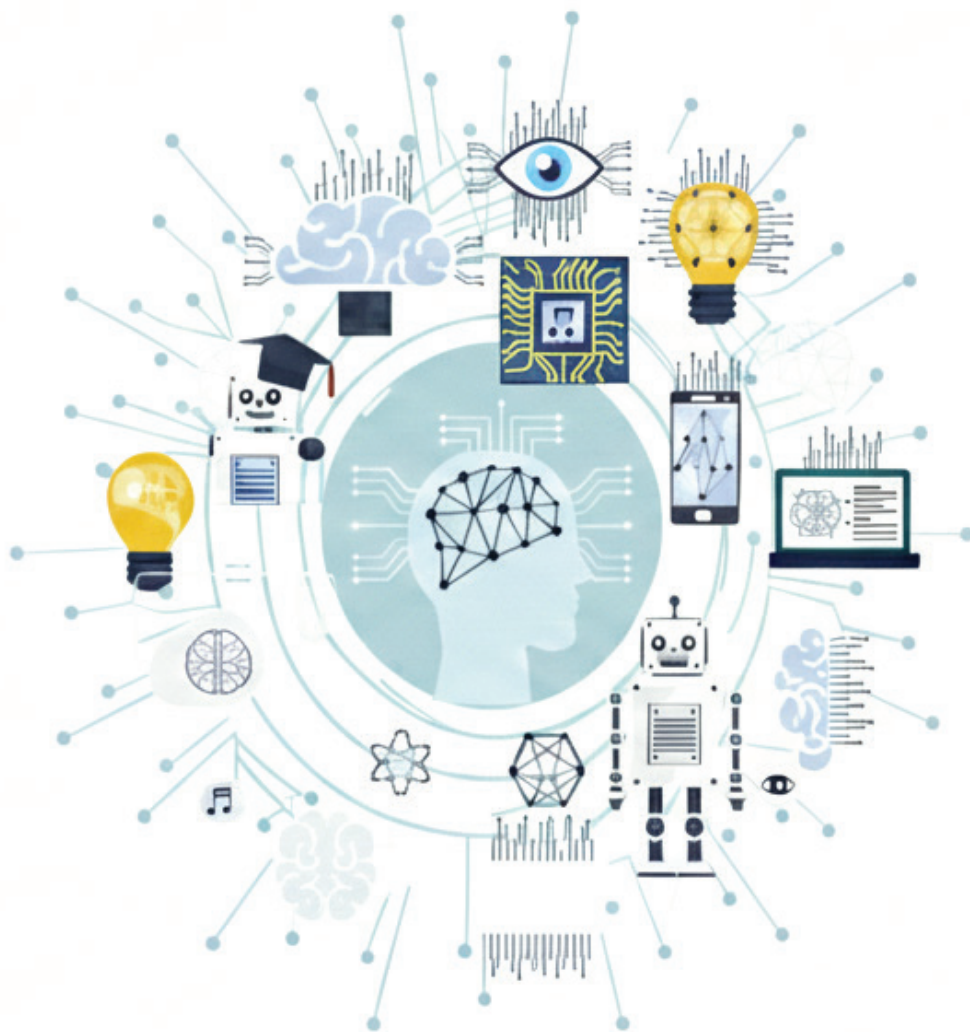


SOUVENIR

National Conference on

Ideas to Innovation: IP Eco-System in Empowering Start-Ups to Strive आत्मनिर्भर भारत



Editor

Dr. Bhavesh H. Bharad

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National Conference

on

Ideas to Innovation: IP Eco-System in Empowering Start-Ups to Strive आत्मनिर्भर भारत

6th – 7th February 2026

Jointly Organized

by

Centre of Excellence, School of Law, Gujarat University,

&

Controller General of Patents, Designs & Trade Marks

(CGPDTM)

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**IDEAS TO
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आत्मनिर्भर भारत**



**6th -7th,
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Dr Neerja A Gupta
Vice Chancellor



Message from Vice Chancellor

It is a matter of great satisfaction to introduce this scholarly volume, *Ideas that Power आत्मनिर्भर भारत: A Reflective Perspective on Intellectual Property, Start-Ups and Innovation in India*, which thoughtfully engages with the forces shaping India's knowledge-driven future. At a time when ideas have become strategic national assets, this book underscores the centrality of intellectual property in transforming creativity into sustainable economic and societal value.

The period of *Amrit Kaal* calls upon universities to function not merely as centres of learning, but as catalysts of innovation, policy dialogue, and responsible entrepreneurship. This volume exemplifies such an academic commitment by weaving together legal thought, technological advancement, entrepreneurial vision, and governance frameworks. I commend the Editor, authors and contributors for curating a work that is both reflective and forward-looking, and I am confident that it will inform, inspire, and guide scholars, practitioners, and decision-makers engaged in India's journey towards *Aatmanirbhar* and *Viksit Bharat*.


Vice Chancellor

ગુજરાત યુનિવર્સિટી

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ગુજરાત, ઇન્ડિયા
ફોન:(૦૭૯) ૨૬૩૦૨૬૫૪
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Date: 23-01-2026

Message from the Registrar

I take great pride in being associated with the publication of Ideas that Power “**આત્મનિર્ભર ભારત: A Reflective Perspective on Intellectual Property, Start-Ups and Innovation in India,**” a volume that engages critically with the evolving architecture of innovation, entrepreneurship, and intellectual property in the Indian context. The book offers a exploration of how regulatory frameworks, institutional mechanisms, and collaborative knowledge ecosystems shape the trajectory of start-up growth and innovation-led development.

Gujarat University has long upheld a tradition of encouraging research that responds to national priorities and emerging socio-economic challenges. This publication reflects that ethos by bringing together scholarly analysis and practical insight, thereby strengthening the dialogue between academia, policy, and industry. I extend my appreciation to the editor, authors and contributors for their academic diligence and commitment to intellectual excellence. I am confident that this work will serve as an important reference for students, researchers, professionals, and policymakers, and will stimulate further inquiry and informed discourse in the domain of intellectual property and innovation.

Dr. P. M. Patel
Registrar (I/C)
Gujarat University,
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प्रो. (डॉ.) उन्नत पी. पंडित / Prof. (Dr.) Unnat P. Pandit

महानियंत्रक एक्स, अभिकल्प, व्यापार चिह्न एवं पंजीकार प्रतिलिप्याधिकार एवं भौगोलिक उपदर्शन

Controller General of Patents, Designs, Trade Marks & Registrar of Copyrights and Geographical Indications

I am pleased to extend my best wishes on the occasion of the National Conference on "Ideas to Innovation: IP Eco-System in Empowering Start-Ups to Strive आत्मनिर्भर भारत," jointly organised by the Centre of Excellence – School of Law, Gujarat University, and the Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM).

Innovation anchored in a robust intellectual property framework is the bedrock of a technology-driven, knowledge-embedded economy and is central to realizing the vision of Viksit Bharat. For India's young innovators and women entrepreneurs, strategic creation, protection, and commercialization of IP transform original ideas into scalable, globally competitive solutions and high-value enterprises.

This national conference provides a timely platform to deliberate on how patents, designs, trademarks, and copyrights can power deep-tech, digital, and knowledge-intensive start-ups, thereby strengthening the ecosystem for Atmanirbhar Bharat. The convergence of thought leaders from academia, industry, government, and the start-up community will help chart pathways for IP-driven innovation, investment, and entrepreneurship, especially for youth and women-led ventures.

I am confident that the deliberations will contribute significantly to enhancing IP awareness, embedding "create, own, and monetise in India" as a national innovation ethos, and nurturing a culture where young minds and women founders see intellectual property as a powerful instrument for impact and self-reliance. I commend the organisers for this important initiative and wish the conference great success in inspiring the next generation of technology and knowledge leaders for a Viksit Bharat.

Jai Hind !

Best wishes,

Prof.(Dr.)Unnat P.Pandit



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Prof. (Dr.) Parteek Kanchan
Director (I/c)

Message

It is essential for students to cultivate originality of thought and spirit to develop creative solutions to everyday challenges. The earlier this process begins, the stronger its impact. At a young age, parents play a crucial role in encouraging children to think innovatively—whether at home, in school, or while engaging with different subjects. While parental concerns about failure are valid, creativity should not be suppressed. Instead, children should be guided and supported at every stage, so that mistakes become learning experiences rather than sources of discouragement. Such consistent handholding builds confidence and lays a strong foundation for innovation, enabling children to face challenges with resilience and a learning mindset.

A cursory review of major inventions and innovations of the 20th century and early 21st century reveals a common thread—creative perseverance. Most innovators faced ridicule, academic setbacks, financial constraints, and lack of support. Yet, through repeated trials, failures, and criticism, they persisted. What appears commonplace today is the result of sustained effort by original thinkers who were allowed to experiment, fail, and improve. Every setback served as a stepping stone toward success.

For such creativity to flourish, a robust ecosystem for the protection of Intellectual Property (IP) is indispensable. Strong and dynamic legal frameworks are necessary to prevent misuse, counterfeiting, and piracy—challenges that have intensified in the age of advanced technology. Innovators, especially young minds, deserve comprehensive legal protection so that their hard work is not exploited. While laws and procedures exist, they must be continuously strengthened to address emerging threats effectively.

This conference is expected to contribute meaningfully toward strengthening IP protection mechanisms across business and service sectors. It should go beyond theoretical discussions and propose practical strategies to motivate and protect young innovators. With the active involvement of the Controller General of Patents, Designs & Trade Marks (CGPDTM), the conference is well-positioned to achieve these objectives. Ultimately, it will help foster a secure and inclusive innovation ecosystem, dispel the misconception that IP is confined only to law, and promote harmony across disciplines including science, management, commerce, social sciences, and humanities.

Dr. Parteek Kanchan
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Dr. Bhavesh H. Bharad
Head of Department (I/c)
School of Law

Message

Innovation is the outcome of originality, perseverance, and the freedom to think beyond conventional boundaries. When young minds are encouraged to question, experiment, and learn from their experiences, creativity transforms into meaningful solutions for society and industry alike. Such an environment not only nurtures confidence but also shapes responsible innovators and leaders of tomorrow.

In today's competitive and knowledge-driven landscape, Intellectual Property assumes a critical role in safeguarding creativity and ensuring that innovation is ethically protected and rightfully rewarded. A strong and responsive IP ecosystem strengthens start-ups, promotes research-driven entrepreneurship, and builds trust among innovators by providing them with legal and institutional support.

The National Conference on “*Ideas to Innovation: IP Ecosystem in Empowering Start-Ups to Strive* आत्मनिर्भर भारत” serves as an important platform for dialogue among academicians, professionals, policymakers, and emerging entrepreneurs. I am confident that the deliberations will generate valuable insights and actionable perspectives, contributing meaningfully to the development of a robust innovation ecosystem aligned with the vision of Atmanirbhar Bharat.

I extend my sincere best wishes for the grand success of this academic endeavour.

Dr. Bhavesh H. Bharad
Head (I/c) School of Law
Gujarat University

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From Place to Property: Reimagining Geographical Indications Within the Framework of Intellectual Property

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Abstract

The contemporary landscape of Intellectual Property (IP) in India is witnessing a fundamental ontological shift in the conceptualization of Geographical Indications (GIs). Traditionally perceived through the lens of territorial provenance and communal heritage, GIs have transitioned into a regime of codified proprietary interest following the enactment of the *Geographical Indications of Goods (Registration and Protection) Act, 1999*. This paper interrogates this juridical metamorphosis, arguing that GIs have evolved from informal cultural signifiers into statutory assets characterized by exclusivity, justiciable enforceability, and commercial utility. To bridge this gap, the study utilizes SOAR and Porter's Five Forces strategic models to propose a suite of governance reforms and adopting analytical framework, the study evaluates the efficacy of this legislative transition. Furthermore, it employs a catallactic analysis to measure the socio-economic dividends yielded by GI protection. These include the implementation of digital traceability, the decentralization of institutional oversight, and the integration of GIs into vertical global value chains.

By examining empirical variables such as pecuniary optimization, export elasticity, and labour absorption, the research identifies a significant structural dichotomy: a chasm exists between formal legal recognition and the actualization of economic value for primary producers. The study found that atrophied enforcement mechanisms and informational asymmetry often impede the equitable distribution of market surplus. Ultimately, the study posits that reimagining GIs as community-centric property assets is essential for boosting sustainable rural development and preserving India's intangible cultural capital.

Keywords: *Geographical Indications; Territorial Reputation; Legal Governance; Intellectual Property Regimes; Market Structure; India*

Intellectual Property Rights with Reference to Patentability of Artificial Intelligence-Driven inventions in Technology: A Global Perspective

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Abstract

In recent years, Artificial Intelligence (AI) has rapidly transformed the innovation landscape, generating a multitude of inventions that challenge traditional frameworks of intellectual property (IP). This paper critically examines the patentability of AI-driven inventions within the broader context of Intellectual Property Rights (IPR) from a global perspective. It explores key issues such as the definitional ambiguity surrounding AI inventions, the criteria for patent eligibility and inventorship, and the applicability of existing patent norms to AI technologies. Comparative analyses of patent regimes in major jurisdictions including the United States, European Union, China, and India highlight divergent approaches toward subject matter eligibility, disclosure requirements, and the treatment of AI as an inventor versus human inventorship. The study also discusses emerging legal reforms and policy debates aimed at reconciling the pace of technological advancement with the goals of patent systems: promoting innovation, ensuring fair competition, and protecting public interest. The paper concludes that while AI poses unique challenges to conventional patent doctrine, harmonized global standards and adaptive legal frameworks can provide clarity and foster responsible innovation. Recommendations are offered for policymakers, patent practitioners, and stakeholders to address gaps and ambiguities, ensuring that IPR continues to support equitable technological development in an AI-driven era.

Keywords: *Artificial Intelligence, Innovation, Technology, Patentability*

Gender-inclusive IP Policies & Start-up Ecosystem

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Abstract

Intellectual property (IP) policies play a pivotal role in shaping the innovation panorama, particularly within the start-up ecosystem. Yet, gender disparities in access to IP protection and commercialization remain a persistent challenge. This study examines how gender-inclusive IP policies can strengthen entrepreneurial participation, foster equitable innovation, and enhance the sustainability of start-ups. The purpose of the research is to analyse existing frameworks in India and globally, identify gaps in gender representation, and propose policy interventions that integrate inclusivity into IP governance.

Methodologically, the study adopts a mixed approach: (i) a doctrinal review of IP statutes, rules, and judicial interpretations with emphasis on gender dimensions; (ii) comparative analysis of international initiatives such as WIPO's "Women and IP" programs; and (iii) case studies of Indian start-ups led by women entrepreneurs, drawing on government reports, DPIIT recognition data, and industry surveys.

Key findings suggest that while India's IP regime provides equal formal access, structural barriers such as limited awareness, financial constraints, and underrepresentation in patent filings disproportionately affect women innovators. Initiatives like Startup India's IPR facilitation and the Controller General's awareness programs have improved participation, but gaps remain in outreach, mentorship, and gender-sensitive evaluation mechanisms. Comparative insights reveal that jurisdictions integrating gender metrics into IP policy (e.g., targeted grants, inclusive patent examination practices) demonstrate higher rates of women-led innovation.

The study concludes that embedding gender inclusivity into IP policies is essential for a resilient start-up ecosystem. Preventive measures such as capacity-building, financial incentives, and gender-responsive IP offices can transform innovation into a more equitable domain. By aligning IP governance with inclusivity, start-ups can harness diverse creativity, accelerate growth, and contribute to balanced socio-economic development.

Keywords: *Gender-Inclusive Intellectual Property, Start-up Ecosystem, Women Entrepreneurship, IP Policy Frameworks, Innovation Governance, Equitable Innovation*

Guardians of Heritage: How Communities Preserve India's Living Knowledge

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Abstract

India's civilizational continuity is sustained less by archives, monuments, or museums than by everyday communities. Across villages, forests, pilgrimage routes, and towns, knowledge persists through hands that weave, voices that recite, bodies that perform, and communities that remember. This vast reservoir of living knowledge encompassing oral traditions, ritual practices, artisanal skills, healing systems, ecological wisdom, and ethical codes is not a remnant of the past but an active and evolving system of meaning and survival. However, rapid urbanization, digital mediation, market expansion, and cultural homogenization have rendered the conditions enabling its intergenerational transmission increasingly fragile. Understanding how communities continue to sustain such knowledge is therefore not merely a cultural concern but also a political, economic, and epistemological one.

This study examines community-based preservation of "living knowledge" in India embodied, transmitted, and continually renewed practices that include oral traditions, ritual arts, craft lineages, ecological know-how, and customary legal-ethical norms. Departing from preservation models that privilege monumental heritage and state-centered custodianship, the paper argues that India's most resilient heritage infrastructures are localized and relational, sustained through kinship and apprenticeship networks, religious and civic institutions, seasonal cycles, and place-based ecologies.

The paper further explores how material culture and intangible practices co-produce one another: craft objects function not merely as commodities but as mnemonic devices encoding technique, cosmology, and local ethics, while performance traditions embed historical memory and social critique within aesthetic forms. Its central contribution lies in advancing an analytical framework that conceptualizes living knowledge as a dynamic public good maintained through distributed stewardship. The study identifies three enabling conditions for continuity: (i) socially embedded transmission through apprenticeship, ritual obligation, and community sanction; (ii) economic

viability without loss of epistemic control, ensured through fair markets, cooperative ownership, and ethical cultural brokerage; and (iii) ecological and spatial integrity, including access to resources and sites essential for practice. By foregrounding community agency and moral economies of care, the study reframes heritage preservation as a contest over rights, recognition, and knowledge governance, offering policy insights for participatory safeguarding that recognizes practitioners as authors rather than artifacts.

Keywords: *Community-Based Heritage, Local Knowledge, Oral Traditions, Cultural Transmission, Heritage Governance*

From Heritage to Rights: Rethinking Intellectual Property Protection for India's Traditional Medicinal Knowledge

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Abstract

India's traditional medicinal knowledge, rooted in the Indian Knowledge System (IKS), represents one of the world's oldest and most sophisticated bodies of health-related wisdom. Systems such as Ayurveda, Siddha, Unani, and diverse folk traditions have evolved through centuries of empirical practice and community transmission. However, the expansion of global intellectual property rights (IPR) regimes has exposed this collective knowledge to the persistent threat of biopiracy, wherein biological resources and associated traditional knowledge are misappropriated, patented, or commercially exploited without recognition or benefit sharing. This article critically examines the interface between IKS and contemporary IPR frameworks, highlighting the structural incompatibilities between patent law and traditional medicinal knowledge. It analyses notable instances of biopiracy, evaluates India's legal and policy responses particularly the Traditional Knowledge Digital Library (TKDL) and the Biological Diversity Act, 2002 and situates them within international developments such as the Convention on Biological Diversity and the Nagoya Protocol. The article argues for a balanced, inclusive, and sui generis approach to intellectual property governance that respects community custodianship, promotes equitable benefit sharing, and enables ethical innovation. By harmonizing traditional knowledge protection with modern IPR systems, India can safeguard its medicinal heritage while contributing responsibly to global health and sustainable development.

Keywords: *Indian Knowledge System, Traditional Medicinal Knowledge, Biopiracy, Intellectual Property Rights, TKDL, Biological Diversity Act*

Digital Constitutionalism and Intellectual Property Rights in India: Contemporary Challenges and Legal Responses

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Abstract

The development, distribution, and enforcement of intellectual property rights have completely changed as a result of the quick development of digital technology and artificial intelligence. In the borderless, algorithm-driven digital world, traditional intellectual property frameworks which were created for a human-centred, territorial model of innovation, face serious difficulties. Serious concerns about freedom of speech, privacy, equality, and information access are raised by issues including AI-generated works, data ownership in AI training, automated copyright enforcement, and platform-based regulation.

In light of this, the idea of “digital constitutionalism” has surfaced as a normative framework that aims to bring fundamental rights and constitutional ideals into the digital realm. This research paper explores the relationship between digital constitutionalism and intellectual property rights, evaluating how constitutional values like due process, accountability, and proportionality might direct IP legislation and enforcement in the era of artificial intelligence. The paper critically assesses the dangers of over-enforcement, algorithmic bias, and lack of transparency while highlighting the expanding significance of digital platforms and algorithms in IP administration.

The research paper argues that a rights-based, constitutionally informed strategy is necessary to balance innovation and creators’ interests with fundamental rights and public interest, with an emphasis on the Indian constitutional framework. In order to guarantee democratic accountability and inclusive technological advancement, the paper’s conclusion emphasises the necessity of flexible legal reforms that include digital constitutionalism into intellectual property governance.

Keywords: *Digital Constitutionalism, Intellectual Property Rights, Artificial Intelligence, Fundamental Rights, Digital Governance, India*

Geographical Indications as an Intellectual Property Mechanism for the Commercialization of Indian Knowledge Systems

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Abstract

This study presents Geographical Indications (GIs) as an important intellectual property mechanism for commercializing Indian Knowledge Systems (IKS). It emphasizes how GI protection ensures authenticity, prevents misappropriation, and boosts brand value to help turn traditional, community-based knowledge into marketable products. The legal structure of GIs in India and their economic effects on industries including agriculture, handicrafts, food, and traditional manufactured goods is examined in this research. The objectives of this research are to evaluate the commercial and economic impacts of GI protection, analyse the concept and importance of Geographical Indications within the broader structure of intellectual property, evaluate to see how GIs contribute to value addition, branding, and market differentiation of IKS-based products, and analyse the accounting and commerce aspects of GI-based commercialization, including income generation, market expansion, valuation concerns, and benefit-sharing mechanisms. In order to support sustainable development, cultural preservation, and the आत्मनिर्भर भारत vision, the research also highlights key challenges to the effective utilization of GIs along with providing recommendations for ways to boost GI-led commercialization. Geographical Indications are a sustainable and inclusive intellectual property instrument that successfully connects heritage with business, promoting equitable economic growth and preserving India's rich traditional knowledge for future generations.

Keywords: *Geographic Indication, Indian Knowledge Systems, Intellectual Property, Commercialization, Accounting and Commerce*

Examining IP Governance in the Evolution of Carbon Credit and Climate Technology Markets

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Abstract

The rapid evolution of voluntary carbon markets and climate technologies represents a critical, yet structurally complex, component of global decarbonization efforts. This research paper examines the underexplored role of Intellectual Property (IP) governance as a pivotal mechanism shaping the trajectory, equity and efficacy of these emerging markets. The authors argue that the configuration of IP rights which are encompassing patents, data ownership, proprietary software and licensing frameworks will fundamentally influence innovation incentives, technology diffusion speeds and the distribution of economic value across the climate value chain. Through a critical analysis of case studies spanning Carbon Capture, Utilization and Storage (CCUS) Technologies, Digital Measurement, Reporting and Verification (dMRV) platforms, and nature-based solution methodologies, the research identifies a tension between strong IP protection, which may spur high-tech innovation but restrict access, and more open models that prioritize scalability and equity but potentially dilute investment incentives. The analysis further interrogates how IP governance interfaces with regulatory standards, market integrity concerns, and North-South technology transfer obligations under international climate agreements. The research paper also focuses on proactive and nuanced IP governance frameworks which are not merely legal adjuncts but are central to ensuring that carbon markets and climate technologies develop in a manner that is not only innovative and scalable, but also transparent, inclusive and aligned with the overarching goal of just climate mitigation. Without the deliberate governance, IP regimes risk creating proprietary silos and new forms of climate-centric technological dependency, thereby undermining the collective action required for effective global climate response.

Keywords: *Carbon Markets, Climate Technology, Innovation Diffusion, Intellectual Property Governance, Technology Transfer.*

Evolving Intellectual Property Rights in the age of Artificial Intelligence

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Abstract

The rapid integration of artificial intelligence (AI) into research, design, and creative processes has significantly altered traditional paradigms of innovation and ownership. As AI-enabled systems increasingly generate patentable inventions and copyrightable works, existing intellectual property rights (IPR) frameworks predicated on human authorship and inventorship are under growing strain. This paper examines the doctrinal, regulatory, and practical challenges posed by AI to contemporary IP regimes.

The study critically evaluates the legal treatment of AI as a tool versus AI as an autonomous or semi-autonomous creator, with reference to patent and copyright laws. It highlights the centrality of data as an intellectual asset in AI-driven innovation, addressing issues relating to training data, copyright infringement, trade secrets, and compliance obligations. Particular attention is paid to the implications for start-ups and small and medium enterprises operating within resource-constrained environments.

The paper also analyses ethical and accountability concerns arising from AI-assisted IP decision-making, including algorithmic bias, opacity, and the need for human oversight. Cross-jurisdictional inconsistencies in the protection of AI-generated outputs are examined to assess their impact on global innovation and technology transfer.

The paper concludes that incremental legal adaptation, supplemented by regulatory guidance and robust AI governance frameworks, is essential to preserve the balance between innovation incentives and public interest. The analysis contributes to ongoing academic discourse on the evolution of IPRs in the context of emerging technologies, with specific relevance to India's innovation ecosystem.

Keywords: *Artificial Intelligence; Intellectual Property Rights; AI and Patent Law; Data Ownership; Emerging Technologies*

Legal and Policy Pathways for IP Commercialization in Tier-3 Startup Ecosystems: A Study of Madhya Pradesh

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Abstract

The commercialization of intellectual property (IP) is a critical determinant of sustainable startup growth, particularly in emerging regional ecosystems beyond metropolitan hubs. This paper examines startup growth and IP commercialization through legal and policy pathways, with a focused study of Madhya Pradesh as a developing state of innovation, and specific reference to Tier-3 cities such as Bhopal, Indore, Gwalior, and Jabalpur. While national startup initiatives provide a broad framework, state-level policies play a decisive role in operationalizing IP commercialization at the regional level. According to the Madhya Pradesh Startup Policy and Implementation Scheme, the state supports a rapidly expanding startup base of over 5,000 registered startups, with approximately 47% women-led enterprises, reflecting both scale and inclusivity of the ecosystem. The policy provides targeted IP and commercialization incentives, including 100% reimbursement of patent filing costs up to ₹5 lakh, financial assistance of up to 15% (capped at ₹15 lakh) on investment raised from recognized investors, lease rental assistance for three years, and marketing and procurement support under state purchase preference rules. Additionally, the creation of a ₹100 crore Madhya Pradesh Startup Capital Fund, seed funding mechanisms, and the proposal for a Mega Incubator in PPP mode demonstrate a structured policy intent to move startups from ideation to market deployment. However, despite these incentives, startups in Tier-3 cities continue to face doctrinal and operational barriers in IP commercialization, including lack of licensing readiness, absence of standardized contracts, limited IP valuation expertise, and weak technology transfer facilitation. The paper argues that patent practitioners must be institutionally positioned as commercialization intermediaries, extending their role beyond prosecution to include IP portfolio structuring, freedom-to-operate analysis, and licensing pathway selection aligned with business models. From a policy-operational perspective, the establishment of regional IP and Technology Transfer Facilitation Cells, supported by model licensing frameworks and state-backed valuation support, can significantly reduce transaction costs and enable local commercialization.

The paper concludes that doctrinal clarity combined with decentralized policy implementation is essential for enabling IP-led startup growth in Tier-3 ecosystems, positioning Madhya Pradesh as a replicable model for regional innovation governance in India.

Keywords: *Intellectual Property Commercialization, Startup Ecosystem, Patent Licensing and Technology Transfer, State Innovation Policy, Tier-3 Cities (Madhya Pradesh)*

Protecting Indian Knowledge Systems through Intellectual Property Rights: Challenges and Prospects

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Abstract

Indian Knowledge Systems (IKS) constitute an extensive and historically evolved body of indigenous knowledge encompassing domains such as healthcare traditions, agrarian practices, ecological sustainability, and cultural expressions. In the context of rapid globalization and technological progress, the protection of this knowledge against unauthorized appropriation and bio-piracy has emerged as a significant legal and policy challenge. Although Intellectual Property Rights (IPR) provide certain tools for safeguarding knowledge assets, the prevailing IPR framework, primarily structured around individual authorship and limited durations, remains insufficient to accommodate the collective, cumulative, and community-oriented character of traditional knowledge. This paper undertakes a critical analysis of the constraints associated with protecting IKS under existing intellectual property regimes, including patents, geographical indications, copyrights, and trademarks. It further assesses the role of alternative and sui generis protective mechanisms, particularly the Traditional Knowledge Digital Library (TKDL), in curbing misappropriation and wrongful claims. Additionally, the study identifies future pathways for integrating IKS with the intellectual property system through legal reforms, enhanced community engagement, and equitable benefit-sharing arrangements that support responsible innovation. The paper emphasizes that an inclusive and context-sensitive IPR approach is vital for conserving India's traditional knowledge heritage while simultaneously advancing sustainable development and innovation.

Keywords: *Indian Knowledge Systems; Intellectual Property Rights; Traditional Knowledge; Bio-piracy; Sui Generis Protection*

India's Global IP Ranking: Achievements & Gap

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Abstract

Intellectual Property (IP) rights form a key pillar of innovation-led economic growth. India's performance in global IP and innovation metrics has been improving steadily, driven by legislative reforms, policy initiatives, and heightened IP awareness. Still, significant gaps in enforcement, treaty participation, and legal harmonization obstruct India's ambition to become a global IP leader. This paper analyzes India's global IP rankings, major achievements, ongoing challenges, and policy/legal recommendations.

Keywords: *Intellectual Property Rights (IPR) - India's Global IP Ranking - International IP Index - WIPO and Innovation - National IPR Policy.*

Borderless AI, Borderless Cyberspace, And Bounded Laws: Jurisdictional Challenges in AI-Driven Disputes on The Borderless Cyberspace in India and Globally

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Abstract

Earlier, as in the early 2000s when the computers, mobile phones and other technologies had just emerged and then, till the last year, i.e., the year 2025 when AI emerged and developed exponentially, the term jurisdictional challenges in the legal context have especially, gone an evolutionary as well as a revolutionary change when it comes to the Borderless AI-driven disputes arising on the Borderless Cyberspace because of the breach of the IP rights provided by the Bounded Laws nowadays, making the most learned and experienced judges scratch their heads in confusion as to what to do. This paper is truly created innovatively on one of the sub-themes of the Conference - Cross-Border Jurisdiction in AI-Driven Technology Disputes involving an in-depth doctrinal, exploratory, descriptive as well as an analytical and comparative research as the methodology for diving deeper into the functioning of the judicial systems all over the globe when the verdicts on the cases involving such challenging disputes for which the current legislations are not so well-equipped yet.

The key findings show that India has a weaker stance when it comes to the resolution of AI-driven disputes on the cyberspace pertaining to the protection of the IP rights as compared to the developed regions of the world including U.S.A., European Union (EU), and so on. Also, the paper concludes that IP rights would only be protected efficiently in this technological era in the AI-Driven disputes when the legislative reforms, amendments as well as legislative developments must progress with the same speed as the technological developments are emerging exponentially with a futuristic and effective visions for practical implementation at a global level.

Keywords: *AI-Driven Disputes, Cyberspace, Bounded Laws, Jurisdictional Challenges.*

Startup-Centric Intellectual Property Policies and Innovation Performance in India

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Abstract

Innovation oriented entrepreneurship has become a defining force in India's economic development, particularly in the context of a rapidly expanding startup ecosystem. As India transitions towards a knowledge driven economy, the role of intellectual property and policy reforms has gained increasing significance. This paper examines how intellectual property frameworks and startup focused policy initiatives influence innovation outcomes and entrepreneurial sustainability in India.

The paper examines policy measures that support intellectual property creation, reduce procedural barriers, and improve administrative efficiency for startups. It also discusses the role of enforcement agencies and regulatory institutions in safeguarding intellectual assets, thereby strengthening confidence among innovators and investors. While recent reforms have improved the overall policy environment, gaps persist in awareness, accessibility, and regional outreach, particularly among first time entrepreneurs and enterprises operating outside major urban centres.

Drawing upon policy documents, innovation indicators, and representative case experiences, the study assesses how startup focused schemes and ease of compliance measures have influenced innovation performance. Attention is also given to inclusive policy strategies that support women led enterprises and youth driven startups, recognising their contribution to employment generation and regional development.

The paper highlights India's improving position in global intellectual property indicators while acknowledging the need for stronger coordination between policy implementation and grassroots entrepreneurial ecosystems. It concludes that effective integration of intellectual property policy, enforcement mechanisms, and capacity building initiatives is essential for sustaining innovation driven entrepreneurship and enhancing India's global competitiveness in the innovation economy.

Keywords: *Intellectual property, Startups, Innovation policy, Government initiatives, Entrepreneurship*

Indian Knowledge Systems (IKS) and Intellectual Property Rights: Safeguarding Traditional Wisdom in a Globalized World

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Abstract

Indian Knowledge Systems (IKS) constitute a vast and ancient reservoir of traditional wisdom developed over thousands of years through continuous civilizational experience. These systems encompass diverse domains such as medicine, agriculture, environmental conservation, architecture, metallurgy, mathematics, and wellness traditions like Yoga and Ayurveda. In the era of globalization, liberalized trade, and rapid technological advancement, traditional knowledge has become increasingly vulnerable to misappropriation, biopiracy, and unjust commercial exploitation through modern intellectual property regimes. Conventional Intellectual Property Rights (IPR) frameworks designed to reward novelty, individual creativity, and market-driven innovation often fail to adequately recognize and protect collectively held, intergenerational knowledge systems. This paper undertakes a comprehensive and critical examination of the relationship between Indian Knowledge Systems and Intellectual Property Rights within the contemporary legal framework. It analyzes landmark biopiracy cases, the evolution of Indian statutory protections, the role of the Traditional Knowledge Digital Library (TKDL), and recent legal and policy developments. The paper argues that safeguarding IKS requires a holistic, rights-based, and culturally sensitive legal approach that balances protection, preservation, and ethical utilization of traditional wisdom in a globalized world.

Keywords: *Indian Knowledge Systems, Intellectual Property Rights, Traditional Knowledge, Biopiracy, TKDL, TRIPS, CBD, India*

Comparative Analysis of Global AI-IP Regulations and Accountability Models

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Abstract

The rapid adoption of artificial intelligence (AI) in creative, innovative, and intellectual property enforcement processes presents significant challenges for existing intellectual property rights (IPR) frameworks. Traditional IP laws, rooted in human authorship and inventorship, are often insufficient to address issues of ownership, infringement, transparency, and liability arising from AI-generated outputs and automated decision-making. This study conducts a comparative analysis of global AI & IP regulations, focusing on accountability models across jurisdictions.

A doctrinal and comparative methodology is employed, examining statutes, regulatory frameworks, policy documents, and judicial developments in the United States, European Union, China, Japan, and India. Ethical principles such as transparency, human oversight, and responsibility are applied as criteria to evaluate accountability mechanisms.

The study finds no uniform global approach. The European Union emphasizes human-centric oversight and transparency, Japan Favors innovation-friendly data use exceptions, the United States relies heavily on judicial interpretation, and China follows a flexible yet state-regulated model. Across jurisdictions, accountability increasingly targets AI developers and deploying entities rather than end-users.

The study concludes that regulatory fragmentation creates uncertainty for creators, AI companies, and policymakers. It advocates harmonized frameworks that embed ethical principles in IP law, enhance transparency in AI deployment, and protect human creativity while promoting responsible AI innovation.

Keywords: *Artificial Intelligence; Intellectual Property Rights; Accountability; Global Regulation; AI Ethics*

From Innovation to Market: IP Commercialization in Start-ups

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Abstract

Start-ups have become a crucial driver of innovation, employment, and economic growth in India. In the early stages of development, start-ups largely depend on innovative ideas, technology, and branding, making intellectual property (IP) one of their most valuable assets. This study explores the role of IP commercialization in start-ups, with a particular focus on licensing and franchising as effective legal pathways for business growth.

The purpose of this study is to understand the concept of IP commercialization and examine how different types of IP, such as patents, trademarks, copyrights, and trade secrets, are relevant to start-ups. It further aims to analyze licensing and franchising models as tools for commercializing IP and expanding business operations. The methodology adopted for this study is doctrinal in nature and is based on the analysis of existing IP laws, legal provisions, government policies, and judicial decisions. Secondary sources, including books, research articles, and reports, have been referred to for this research.

The study finds that licensing allows start-ups to generate revenue by permitting third parties to use their IP while retaining ownership, making it a cost-effective and flexible commercialization strategy. Franchising helps start-ups achieve rapid brand expansion by allowing others to operate under a standardized business model, thereby increasing market presence with reduced capital investment. However, the study also identifies several legal challenges faced by start-ups, such as a lack of IP awareness, inadequate protection of IP rights, and enforcement issues.

The study also highlights the role of the Indian legal framework and government initiatives in supporting start-ups through IP facilitation. The paper concludes that effective IP commercialization requires strong IP protection and awareness among start-ups. Licensing and franchising, when used strategically, can significantly contribute to the sustainable growth and long-term success of start-ups.

Keywords: *Start-ups, Intellectual Property Rights, Licensing, Franchising, Market Expansion*

Policy Reforms for Startups & Innovation in India

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Abstract

In recent years, the Government of India has introduced several policy reforms to promote startups and strengthen innovation as a driver of economic growth. This research paper examines these policy reforms and evaluates their effectiveness in supporting entrepreneurial activity and innovation development in India. The study focuses on major national initiatives such as Startup India, Digital India, and Atmanirbhar Bharat, along with related reforms in taxation, regulation, funding, and intellectual property rights.

Using a qualitative research approach, the paper analyzes policy documents, government reports, and existing empirical studies to understand how these reforms have shaped India's startup ecosystem. The analysis highlights improvements in ease of business registration, access to government-backed funding, faster patent processing, and the expansion of incubation and acceleration infrastructure. These measures have helped reduce entry barriers for new firms and encouraged innovation-led entrepreneurship, particularly in technology and service sectors.

However, the findings will reveal several continuing challenges. Paper will examine complexity of regulatory process across states, creating uncertainty for startups. Access to early-stage finance is still limited for startups outside major cities. In addition, collaboration between universities, research institutions, and industry remains weak, limiting the commercialization of research and development outcomes. The paper also notes that current policies do not adequately support deep-technology innovation, sustainable entrepreneurship, or inclusive participation by women and marginalized groups.

The study concludes that while policy reforms have significantly improved India's startup environment, further reforms are needed to ensure long-term and inclusive innovation growth. Strengthening coordination between institutions, improving policy implementation, and focusing on capacity building are essential for sustaining India's transition toward an innovation-driven economy. This paper contributes to the broader literature on innovation policy in emerging economies by providing a clear and evidence-based assessment of India's startup reforms.

Keywords: *Startup Policy, Innovation Ecosystem, Entrepreneurship Development, Government Reforms, India*

Strengthening Enforcement: Role of Police and Customs in IP Protection.

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Abstract

India's growing focus on innovation, start-ups, and digital commerce has significantly increased the importance of intellectual property as a commercial and strategic asset. At the same time, experiences from other jurisdictions show that an expansion of IP creation is often accompanied by a rise in intellectual property theft, organized counterfeiting, digital piracy, and deceptive IP-related scams. Many countries have faced these challenges only after such crimes became widespread. This paper takes the position that India is approaching a similar phase and that enforcement systems must evolve in anticipation rather than in response.

The purpose of this study is to examine emerging forms of IP theft and IP scams that are likely to pose serious enforcement challenges in India in the near future, and to assess whether the current roles played by police and customs authorities are sufficient to address these risks. The research takes a doctrinal and analytical methodology, based on statutory provisions, enforcement practices, policy documents, and selected international and Indian case studies relating to IP crimes and border enforcement.

The study finds that although police and customs authorities in India are legally empowered to take actions against IP violations. But enforcement remains largely broken and not very active. Because this niche requires expertise. Even case studies have suggested that lack of specialized knowledge, inconsistent enforcement practices across jurisdictions, and limited coordination between agencies reduce the overall effectiveness of IP protection. Therefore, countries that have faced similar enforcement gaps have responded by establishing specialized and coordinated IP enforcement mechanisms.

The paper concludes that India will be able to neutralize such cases by creating a dedicated Intellectual Property Enforcement Task Force. This task force shall include police, customs, and technical experts. This will benefit certain aspects, such as strengthening investigative capacity,

improving coordination, and enhancing deterrence against emerging IP crimes. Creating a proactive institutional reform is essential to protect innovation, consumers, and confidence in India's intellectual property regime.

Keywords: *Intellectual Property Enforcement, Police and Customs Authorities, Counterfeiting and Piracy, IP Crimes and Scams, India*

Artificial Intelligence (AI) Training, Data Ownership & Consent: Legal, Ethical and Human-Rights Dimensions

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Abstract

Artificial Intelligence (AI) has rapidly transformed global industries by enabling predictive analytics, automation, and decision-making at unprecedented scales. However, the foundation of AI systems on the datasets used for training raises critical questions of legal ownership, informed consent, privacy, ethics, and human-rights protection. Modern machine-learning models are trained on massive quantities of personal and public data collected from digital platforms, biometric systems, healthcare records, e-commerce platforms, telecommunication databases, and openly accessible content on the internet. While corporations often justify data scraping under doctrines like fair use, individuals argue that digital data remains part of their identity and therefore requires respect, authorization, and protection.

This paper examines the complex legal landscape governing AI data usage through a comparative review of regional and international laws including the European Union's General Data Protection Regulation (GDPR), India's Digital Personal Data Protection Act (DPDPA) 2023, the United Kingdom Data Protection Act, and sector-specific copyright laws in the United States. It analyses real-world case studies. The New York Times vs. OpenAI, Cambridge Analytica, Clearview AI biometrics case, and Google DeepMind-NHS medical data dispute to demonstrate how AI-driven data exploitation threatens privacy, autonomy, democracy, and social justice.

Beyond legal dimensions, the paper explores ethical and human-rights-based concerns, including algorithmic bias, discriminatory profiling of marginalized communities, commodification of personal identity, absence of informed consent, and lack of transparency in AI-enabled surveillance. The study argues that current laws are insufficient to address modern AI challenges and emphasizes the urgent need for global data governance, transparency standards, user compensation for data use, AI-audit mechanisms, stronger biometric protections, and rights-based frameworks prioritizing dignity, autonomy, equality, and non-discrimination.

Keywords: *Artificial Intelligence, Data Ownership and Consent, Privacy and Human Rights, Algorithmic Bias, Data Protection Laws*

Inventorship as Accountability in the Indian Patent Law: How AI-Generated Inventions challenges its Human-Centric foundations

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Abstract

The Rapid development of Artificial Intelligence (AI) in the inventive process has fundamentally challenged the human-centric foundations of patent law across various jurisdictions, including India. By using the doctrinal research methodology with analytical research plan and qualitative methods, it intends to evaluate the scope of the Indian Patent law dealing with the challenges of AI-made inventions, specifically with reference to inventorship under the law. The current patent law in India presumes inventorship an exclusive human endeavour, closely linked to idea of creativity, moral agency, and legal accountability. However, the creation of the novel and non-obvious inventions by autonomous and semi-autonomous AI systems rises question on these human centric foundations. The paper evaluates the concept of inventorship as a mechanism of accountability and investigates whether existing legal framework can accommodate AI-generated inventions without impacting the core principles of patent jurisprudence. The paper takes a critical look at the doctrinal gaps and normative tensions arising from the complete exclusion of AI-generated inventions from patent consideration thereby creating legal uncertainty, false inventorship claims, innovation stagnation. This does not imply granting inventorship to AI systems. Instead, the paper proposes a recalibration of Indian patent law to fit the changing reality of technological innovation and transparently recognizing the role of AI as a tool or contributor in the inventive process.

Keywords: *Artificial Intelligence, Indian Patent law, Inventorship, legal Accountability*

Legal Framework for IP Commercialization in Jammu & Kashmir: A Post–370 Analysis

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Abstract

The abrogation of Article 370 in August 2019 marked a significant constitutional and legal transformation for the Union Territory of Jammu & Kashmir, ending its special status and enabling the uniform application of Indian laws. One of the most consequential areas affected is intellectual property (IP) regulation, where the full applicability of central statutes—including the Patents Act, Trade Marks Act, Copyright Act, Designs Act, and Geographical Indications (GI) Act—now provides a structured legal framework for protection and commercialization of innovations. Supreme Court judgments such as *Novartis AG v. Union of India*, *Satyam Infoway Ltd. v. Sifynet Solutions Pvt. Ltd.*, and key rulings on Article 370 have further clarified the scope of IP rights and reinforced legal certainty for entrepreneurs and startups. This paper aims to critically analyze the post-370 legal and regulatory framework governing IP in Jammu & Kashmir, examine commercialization mechanisms, identify opportunities for startups and innovators, and evaluate enforcement challenges. It also proposes policy recommendations to strengthen the IP ecosystem, facilitate technology transfer, and enhance startup growth. By providing a comprehensive legal and policy perspective, the study underscores the strategic importance of IP commercialization in fostering innovation-driven economic development and contributing to the vision of *aatam-nirbhar Bharat*.

Keywords: *Intellectual Property (IP), Commercialization, Start-ups, Article 370, Jammu & Kashmir, Innovation, Aatam Nirbhar Bharat*

Green Patents and Sustainable Development Goals, Aligning IP Law with Climate Commitments

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Abstract

Climate change presents an unprecedented global challenge that demands rapid technological innovation and widespread diffusion of environmentally sustainable solutions. Green patents—patents relating to environmentally friendly technologies—play a crucial role in encouraging innovation in renewable energy, energy efficiency, waste management, and climate mitigation technologies. At the same time, the United Nations' Sustainable Development Goals (SDGs), particularly SDGs 7, 9, and 13, emphasize the need for sustainable industrialization, clean energy access, and urgent climate action. This research paper critically examines the relationship between green patents and the SDGs, analyzing whether existing intellectual property (IP) laws adequately support global climate commitments. It explores international legal frameworks such as the TRIPS Agreement, the Paris Agreement, and WIPO initiatives, identifies key challenges in technology access and transfer, and evaluates policy mechanisms for aligning patent regimes with sustainable development and climate justice. The paper argues that while patents are essential for incentivizing green innovation, reforms are necessary to ensure equitable access, especially for developing countries.

Keywords: *Green Patents, Sustainable Development Goals (SDGs), Intellectual Property Law, Climate Commitments, Sustainable Innovation, Environmental Technology, Climate Change Mitigation*

Government Promoting Intellectual Property Creation Through Fiscal Incentives: A Study of Startups and Small Enterprises in India

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Abstract

Intellectual property has contributed a lot in economic growth in present era of modern economies. However there exists a substantial risk in the process of research, development and creation of intellectual property. Most of the people are unaware about the Ip rights and many innovators who are aware of the IP rights are often discouraged due to the high compliance costs. Startups and small enterprises, in particular, face significant setbacks due to limited financial resources. In order to promote the Intellectual property creation and supporting the startups and small enterprises facing this challenge, the Indian government has adopted various tax relief policies which eventually promotes promotion. In this research paper when was the first initiative taken by the government has been discussed along with the need to take such initiative. This paper examines several reasons why people remain unaware of the IP rights and steps taken by the government to spread awareness. The paper examines tax incentives under the Income tax – Act 1961 and their role in promoting R&D and IP filing in India. The study examines statutory provisions concerning tax deductions for scientific research expenditure, startup-oriented tax incentives that directly promote IP creation and the long- term effect of IP incentives on startup success, scale – ups and exists. Adopting doctrinal, analytical and comparative research methodology, the paper analysis the effectiveness of these incentives by evaluating and comparing data of patent/trademark/design filing by sector and across different region over time. The study also identifies prevailing limitations, notably the lack of a patent box regime and persistent challenges in the commercialization of intellectual property. The paper concludes that although tax – based incentives significantly reduce the cost of innovation, an integrated policy framework is necessary to fully realize economic value of intellectual property in India.

Keywords: *Intellectual Property Rights, Fiscal Incentives, Startups and Small Enterprises, Tax Policy and Innovation, Research and Development*

Copyright Challenges in the Era of Digital Streaming Platforms

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Abstract

The rapid expansion of digital streaming platforms has transformed the way audiences access and consume media, creating unprecedented opportunities for content distribution and global reach. However, this evolution has also intensified copyright challenges, as traditional legal frameworks struggle to keep pace with the complexities of digital content sharing. Issues such as unauthorized reproduction, content piracy, and cross-border licensing disputes have emerged as major concerns for creators, distributors, and platform providers. Additionally, the rise of user-generated content, algorithmic recommendations, and digital rights management technologies has further complicated the enforcement of intellectual property rights. This paper explores the key copyright challenges faced by streaming platforms, examining legal, technological, and ethical dimensions. It emphasizes the need for adaptive policies, international cooperation, and innovative technological solutions to balance the interests of creators, platforms, and consumers while ensuring the sustainable growth of digital media ecosystems.

Keywords: *Digital streaming, copyright infringement, intellectual property, content piracy, licensing, digital rights management, user-generated content, media law, platform regulation.*

Mental Well-being as an Enabler of Innovation: Examining Legal Frameworks and Policy Gaps in India's Start-up and IP Ecosystem

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Abstract

This study examines the role of mental well-being as a vital enabler of innovation in India's startup ecosystem, highlighting how the creativity and resilience of founders shape the country's journey toward Atmanirbhar Bharat.

Innovation is usually discussed in terms of technology, funding, and legal protection. However, the psychological health of startup founders and innovators plays a crucial role in sustaining creativity, making balanced decisions, and maintaining long-term productivity. Despite its importance, this human aspect of innovation receives limited attention in policy discussions.

Within the framework of India's vision of Atmanirbhar Bharat, startups are expected to transform indigenous ideas into market-ready solutions through supportive IP systems. While government policies strongly encourage entrepreneurship, innovation, and competitiveness, they rarely acknowledge the mental pressures faced by innovators. Founders often work in uncertain and high-risk environments where continuous expectations of growth and performance can lead to stress, burnout, and reduced creative capacity. Existing organisational and policy structures do not adequately respond to these challenges.

The study adopts a qualitative, policy-based methodology. It analyses India's mental health laws, startup and innovation policies, labour regulations, and IP frameworks using government policy documents, official reports, judicial decisions, and academic literature. The findings suggest that although India has established robust support for startups and IP protection, mental well-being remains a neglected area. Mental health laws primarily focus on treatment rather than prevention, while startup and IP policies prioritise expansion and scalability, often creating high-pressure conditions.

The study concludes that mental well-being should be recognised as a key enabler of innovation rather than a personal concern. Integrating mental health considerations into startup and IP policies can strengthen India's innovation ecosystem and support the broader goal of a sustainable and self-reliant economy.

Keywords: *Mental Well-being; Innovation Policy; Startup Ecosystem; Intellectual Property; Legal Frameworks*

Data Privacy and Artificial Intelligence (AI)

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Abstract

Artificial intelligence's rising popularity is changing how humans collect and use information (sometimes referred to as "big data") in numerous ways. To name just a few examples, AI is changing the way humans gather, store, and analyze data in healthcare, finance, education, and public administration. In addition to enabling greater efficiency and improved decision-making, the integration of AI into business operations and other areas of life produces a number of potential privacy-related challenges. The reliance of intelligent systems on vast amounts of personal and sensitive information creates issues with unauthorized access, misinformation, and potential loss of personal control over one's own data.

Risks associated with data privacy can arise from large-scale data aggregation, continuous surveillance and monitoring of individuals, and automated profiling. This practice can expose individuals to various forms of identity theft, discrimination, and surveillance by government authorities or private companies if that individual's data is not sufficiently secured. Because of a lack of transparency in the algorithms used to process and analyze data, it can be difficult for individuals using these systems to understand how their information is utilized. Existing laws regarding the use of data generally do not keep up with the fast-paced growth of technology that uses such vast amounts of data to produce insights that create both opportunities and risks for consumers of these types of products and services due to differences in the way those laws are enforced.

Keywords: *Artificial Intelligence, Data Protection Laws, Privacy Rights, Automated Decision-Making, Regulatory Challenges*

Judiciary And Expanding Horizons of Domestic Legal Regime Related to Intellectual Property Rights

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Abstract

This research is a humble attempt on part of the author to analyse judicial contribution towards expanding horizons of our domestic legal regime with specific reference to intellectual property rights. In this paper the researcher shall review judicial pronouncements of Apex Court as well as various High Courts of our country. The researcher shall also consider relevant case law of other countries. This is an academic endeavour to analyse whether our domestic legal regime is at par with international legal regime. Judicial discretion plays a very important role in designing the legal framework of ever expanding horizons of intellectual property rights. Post Trade Related Aspects of Intellectual Property Rights Agreement, our intellectual property rights legal framework has been amended. New statutes have also been crafted. Our judiciary has acknowledged flexibilities granted by TRIPS as highlighted by Doha Declaration. Here dynamic role of our judiciary in safeguarding human rights of authors, inventors, businessmen as well collective rights related to geographical indications with due considerations to our social, economical and political reality has been diligently analysed. Lacuna if any shall be identified and humble recommendations shall be extended towards the end of this research journey. It is too taxing an effort to create any rule law de novo. All statutory provisions are not necessarily crafted by legislature alone. Judiciary which is an equally important organ of governance also plays an important role in laying down new norms. In doing so, judicial discretion and creativity play vital role. This modest academic endeavour is an effort to diligently identify and acknowledge judicial contribution in the ever evolving legal regime of intellectual property rights.

Keywords: *Intellectual Property Rights; Judicial Interpretation; TRIPS Agreement; Doha Declaration; Judicial Discretion; Comparative Jurisprudence; Geographical Indications; Public Interest; Legal Harmonisation; India*

A Critical Analysis of Authorship and Ownership of AI-Generated Works under the Indian Copyright Act, 1957

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Abstract

The meteoric rise of Generative Artificial Intelligence (GenAI) has precipitated a paradigmatic shift in the global creative economy, challenging the foundational tenets of Intellectual Property (IP) law. In India, the legal discourse is anchored in the Copyright Act, 1957, which traditionally predicates “authorship” on human intellect and the “modicum of creativity” standard established in *Eastern Book Company v. D.B. Modak*. This paper critically examines the burgeoning legal vacuum regarding works generated by AI without direct human intervention.

While Section 2(d)(vi) of the Act attributes authorship of computer-generated works to “the person who causes the work to be created,” the ambiguity arises when the AI’s contribution eclipses human agency. This study analyzes recent developments, including the DPIIT’s 2025 Working Paper on Generative AI and the contentious “Suryast” case (*Ankit Sahni v. Registrar of Copyrights*), to evaluate whether the current framework is “future-ready” or requires a sui generis legislative intervention. By comparing the Indian landscape with international precedents (such as the USCO’s “Human Authorship” requirement and the UK’s “Computer-Generated Works” provision), this research argues for a hybrid ownership model. The paper concludes by proposing a balanced regulatory approach that incentivizes AI innovation while safeguarding the moral and economic rights of human creators.

Keywords: *Generative AI, Indian Copyright Act 1957, Section 2(d)(vi), Authorship, Ownership, Artificial Intelligence, IPR Reform.*

Strategic Intellectual Property Commercialization Policies and Start-up Growth in Gujarat: A Time-Based Policy Analysis

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Abstract

Intellectual property (IP) has emerged as a critical strategic resource for startup growth and sustainability in an increasingly innovation-led business environment. Beyond its traditional legal function, IP now plays a central role in commercialization strategies, competitive positioning, and long-term value creation for startups. Using a time-based analytical framework, this study examines the impact of strategic intellectual property commercialization policies on startup performance in the state of Gujarat. The analysis categorizes startups into three developmental stages: short-term (up to one year), mid-term (one to three years), and long-term (three to five years). The study is based exclusively on secondary data drawn from national and state-level policy documents, official government reports, and existing academic literature.

The paper evaluates key policy instruments such as the Startup Intellectual Property Protection (SIPP) Scheme, fast-track patent examination mechanisms, Gujarat's Student Startup and Innovation Policy (SSIP 2.0), technology transfer and licensing frameworks, government procurement policies, international IP filing support, and intellectual property enforcement mechanisms. The findings indicate that short-term startups benefit most from facilitative and cost-reducing policies that enable early IP protection and institutional legitimacy. Mid-term startups derive greater value from IP commercialization, licensing, and funding-linked policies that support scaling and market expansion. In contrast, long-term startups increasingly depend on international IP protection, enforcement frameworks, brand-based strategies, and IP-driven mergers and acquisitions to sustain competitive advantage.

By offering a structured, time-based assessment of IP commercialization policies within a state-specific startup ecosystem, this study contributes to the literature on strategic management and innovation policy. The findings also provide practical insights for policymakers and startup founders, aligning with the broader national objective of Atmanirbhar Bharat through strengthened intellectual property-driven startup empowerment.

Keywords: *Intellectual Property Commercialization, Startup Ecosystem, Innovation Policy, Strategic IP Management*

AI-generated Works: Authorship, Ownership & Revenue Models

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Abstract

The emergence of generative artificial intelligence (AI) has transformed creative production by enabling machines to autonomously generate literary, artistic, musical, and audiovisual works. This technological shift challenges foundational principles of copyright law, particularly concerning authorship, ownership, and the allocation of economic benefits derived from AI-generated works. This study critically examines how existing legal frameworks address these issues and explores sustainable revenue models in the evolving AI-driven creative economy.

The research employs a doctrinal and comparative methodology, analysing statutory provisions, judicial decisions, policy documents, and scholarly literature from key jurisdictions, including India, the United States, the United Kingdom, and the European Union. Landmark cases and regulatory approaches are examined to assess the human authorship requirement and its implications for ownership claims. The study further evaluates competing ownership models that vest rights in AI developers, users, or commissioning entities, as well as the proposition of treating AI-generated works as part of the public domain. In parallel, the research analyses emerging revenue models, including licensing of AI outputs, platform-based monetisation, data-driven royalty structures, and contractual allocation of profits among stakeholders.

The findings reveal a global reluctance to recognise AI systems as legal authors, primarily due to the absence of legal personality and human creativity. However, there is significant divergence in ownership attribution, resulting in legal uncertainty and fragmented commercial practices. The study finds that current copyright regimes inadequately address revenue distribution, often relying on private contracts rather than statutory guidance.

The study concludes that comprehensive legal reform is essential to harmonise authorship standards, clarify ownership rights, and regulate revenue-sharing mechanisms. It recommends a balanced framework that recognises meaningful human involvement, ensures fair economic participation for stakeholders, and prevents excessive monopolisation of AI-generated content, thereby promoting innovation and public interest in the digital economy.

Keywords: *Generative Artificial Intelligence, Copyright Law, Authorship and Ownership, AI-Generated Works*

Patents Beyond Earth: Rethinking Intellectual Property Rights In AI-Driven Space Technologies Under India's Emerging Space Governance Framework

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Abstract

Space has become the new home of humanity, as rapid technological advancements have opened the doors of outer space to human activity on an unprecedented scale. The increasing integration of sophisticated technologies has intensified global competition among nations to achieve technological superiority in space exploration, satellite deployment, and extraterrestrial innovation. In this evolving landscape, artificial intelligence (AI) has emerged as a transformative force, enabling autonomous satellites, AI-driven navigation systems, and intelligent space robotics that operate with minimal human intervention. These developments pose significant challenges to conventional patent regimes that are founded on human inventorship, territorial jurisdiction, and terrestrial enforcement.

At the international level, outer space activities are governed by key legal instruments such as the Outer Space Treaty, 1967, the Rescue Agreement, 1968, the Liability Convention, 1972, and the Registration Convention, 1975, which collectively conceptualize outer space as the common heritage of humankind and prohibit national appropriation. This framework stands in normative tension with national patent systems that grant exclusive, territorially enforceable rights. The challenge is further exacerbated when inventions are autonomously generated or optimized by AI systems functioning in extraterrestrial environments.

Within this global context, India's evolving space governance framework—marked by the Indian Space Policy, 2023, and the institutional role of IN-SPACe and NewSpace India Limited (NSIL)—reflects a decisive shift toward private sector participation, start-up innovation, and commercialization of space technologies. However, the Patents Act, 1970, in its present form, remains ill-equipped to address critical issues such as AI inventorship, patentability of autonomous space technologies, cross-border enforcement, and the balance between patent disclosure and national security in dual-use innovations.

This paper adopts a doctrinal and comparative research methodology, supported by policy analysis, to examine the patentability of AI-driven space technologies within the Indian legal framework while situating the discussion in a broader international context. By analyzing international space conventions, patent jurisprudence, and emerging policy developments, the study proposes legal and policy reforms aimed at reconciling innovation incentives with public interest, strategic autonomy, and equitable access to outer space. The paper offers a Global South perspective on rethinking intellectual property governance in the age of AI-enabled space commercialization.

Keywords: *Space Technology; Artificial Intelligence; Patent Law; Space Governance; AI Inventorship; Outer Space Treaty; Indian Space Policy 2023; Autonomous Satellites; Intellectual Property Rights; Space Commercialization; IN-SPACe; Global South Perspective.*

Role of Intellectual Property Rights in Converting Ideas into Innovation: A Legal Study of Indian Start-ups under Atmanirbhar Bharat

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Abstract

Innovation driven by indigenous ideas has emerged as a defining pillar of India's economic and technological transformation under the Atmanirbhar Bharat initiative. In this evolving landscape, start-ups play a pivotal role in translating creativity, research, and problem-solving ideas into scalable and market-oriented innovations. Intellectual Property Rights (IPRs) form the legal foundation that supports this transition by granting exclusive rights, encouraging investment, enabling commercialization, and safeguarding originality. This research paper undertakes a comprehensive legal analysis of the role of IPRs in converting ideas into innovation within the Indian start-up ecosystem.

The study examines the Indian intellectual property regime, including patents, trademarks, copyrights, industrial designs, and trade secrets, and evaluates their relevance and effectiveness for start-ups operating under Atmanirbhar Bharat. It critically analyses government policies, institutional mechanisms, and facilitation schemes aimed at strengthening IP awareness and access for emerging enterprises. The paper further explores practical challenges such as high enforcement costs, procedural delays, lack of IP literacy, and commercialization barriers faced by start-ups.

By adopting a doctrinal and policy-oriented research methodology, the paper highlights how IPRs function not merely as legal protections but as strategic business tools influencing valuation, funding, technology transfer, and global competitiveness. The study concludes that a robust, inclusive, and start-up-friendly IP ecosystem is indispensable for achieving innovation-led self-reliance. It offers reform-oriented recommendations to enhance legal clarity, institutional efficiency, and integration of IP strategy within India's innovation and start-up framework.

Keywords: *Intellectual Property Rights; Innovation; Indian Start-Ups; Atmanirbhar Bharat; Patent Law; Legal Framework; IP Ecosystem; Economic Self-Reliance.*

AI-Generated Works: Authorship, Ownership & Revenue Models

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Abstract

Innovation and creativity are no longer the sole domain of human beings; intelligent machines have begun to multitask in the creative economy. AI has transformed the generation and engagement with content material in a wide array of disciplines. Assistants like ChatGPT and Gemini help with writing tasks. Creative visual AI tools include DALL-E, Midjourney, and Stable Diffusion. Music composition tools are AIVA and Suno. Video-making tools are Runway and Synthesia. GitHub Copilot by AI aids in software development. The commercial usage of AI-generated content has increased manifold, raising complex questions regarding authorship and ownership and the distribution of profits under copyright law.

The present paper discusses copyright in the light of the creative economy. The Copyright Act, 1957, grants authorship to natural persons for creating a work. Only natural persons are considered authors under Section 2(d). The Supreme Court has further strengthened this stance in the case of *Eastern Book Company v. D.B. Modak*, 2008, where it was concluded that copyright protection would require at least a minimum degree of human creative input. Artificial intelligence lacks legal personality and therefore cannot be considered an author under Indian copyright law.

Ownership and monetization of AI-generated works would, therefore, depend on the degree of human involvement and contractual arrangements with AI service providers. The paper takes a doctrinal and comparative approach to show India's legal position regarding AI-generated works and compares the same with international frameworks that recognize computer-generated creations. The issue has socio-legal significance because AI affects the rights, fair remunerations, and moral recognition of human creators. In the absence of a well-defined regulatory framework in India, uncertainty continues to harm the creative sector. This paper argues for the urgent need to formulate laws that govern ownership and revenue models for AI-generated works while protecting human creativity, transparency, and social justice.

Keywords: *Artificial Intelligence (AI); Authorship; Human Creativity; Revenue Models; Moral Rights.*

Inadvertent Copyright Infringement in India's Short-form Video Ecosystem: A Study of Youtube Shorts And Instagram Reels

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Abstract

The rapid rise of short-form video platforms such as YouTube Shorts and Instagram Reels has reshaped the way digital content is created and shared. While these platforms have made creativity more accessible, they have also intensified copyright-related challenges. In India's highly participatory digital culture, where remixing, trending audio and rapid replication of content are common, inadvertent copyright infringement has become a widespread yet largely overlooked issue. This study explores how gaps in public awareness contribute to unintentional copyright violations within the short-form content ecosystem.

The paper adopts a doctrinal research approach to examine the relationship between copyright law, platform governance and user behaviour. It analyses the Copyright Act, 1957, the Information Technology Act, 2000 and the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, together with key judicial decisions governing online copyright enforcement. The study also reviews platform-specific enforcement mechanisms such as YouTube's Content ID system and Instagram's automated takedown processes, and undertakes a comparative assessment of regulatory practices in the European Union, the United States and select Commonwealth jurisdictions.

The study finds that although Indian copyright law is technologically neutral, it has not evolved sufficiently to address the realities of algorithm-driven short-form content creation. The limited scope of fair dealing, the absence of explicit recognition of user-generated content, and the lack of transparency in automated enforcement systems significantly increase creators' exposure to unintentional infringement. It further highlights that trend-based replication and inadequate understanding of licensing and synchronization rights substantially contribute to non-compliant practices.

The paper concludes that India's copyright framework requires targeted doctrinal reform to sup-

port digital creativity without weakening authors' rights. It recommends clearer statutory guidance on transformative use, greater transparency in platform enforcement, and structured copyright awareness initiatives to build a balanced and innovation-friendly digital ecosystem in line with the vision of Aatmanirbhar Bharat.

Keywords: *Inadvertent Copyright Infringement, Short-Form Video Content, YouTube Shorts and Instagram Reels, Copyright Awareness, User-Generated Content*

Space Tourism and the Scope of International Space Law

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Abstract

The normative foundations of International Space Law are being challenged by the commercialization of space through space tourism which constitutes a paradigm change in space activities. The current treaty framework—especially the Outer Space Treaty 1967, the Rescue and Return Agreement 1968 and the Liability Convention 1972 were created during the Cold War to control state-centric exploration but it provides little guidance for regulating private commercial human spaceflight. With particular regard to India's developing space industry, this article critically evaluates the suitability of International Space Law in handling the legal issues resulting from space tourism. The absence of a legally defined status for space tourists, the ambiguity surrounding the application of rescue and return obligations and the conflict between absolute state accountability and privatized profit-driven space operations are some of the major doctrinal gaps which needs to be examined.

It also condemns the use of soft law tools and domestic regulatory structures for monitoring space tourism, contending that these methods run the risk of disintegrating regulations and compromising the idea of consistent international space administration. In light of the dearth of comprehensive space legislation, all nations should consider whether existing institutional arrangements and policy-based regulations are sufficient to fulfil global responsibilities regarding authorization, accountability and liability. Despite its ethical implications, it remains to be seen whether the existing international legal framework is structurally sufficient to regulate space tourism in a way that ensures environmental sustainability, safety, and accountability. It emphasizes the need to establish uniform international standards and a national legal framework in India and every other nation worldwide. This is to ensure that commercial innovation is balanced with the fundamental principles of space law and the concept of outer space as a shared resource for all.

Keywords: *Commercial Human Spaceflight, Outer Space Treaty, Tourism, State Responsibility, Commercial Space Activities. Legal Reforms.*

Indian Knowledge System and Intellectual Property Law: A Study of Traditional Knowledge Protection in India

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Abstract

Indian Knowledge Systems represent a rich body of traditional knowledge developed over centuries in fields such as medicine, agriculture, art, science, and cultural practices. This knowledge, passed down through generations, plays an important role in India's social and economic development. However, with globalization and commercialization, traditional knowledge has become vulnerable to misappropriation, biopiracy, and unauthorized use by individuals and corporations, often without recognition or benefit to the original knowledge holders. This research paper aims to examine the relationship between Indian Knowledge Systems and Intellectual Property Law, with special focus on the protection of traditional knowledge in India. It analyses how existing intellectual property regimes such as patents, geographical indications, and copyrights interact with traditional knowledge, which is largely collective, ancient, and community-based in nature. The paper also discusses the limitations of conventional intellectual property laws in addressing the unique characteristics of traditional knowledge.

Further, the study highlights India's efforts to protect traditional knowledge through legal and policy measures such as the Traditional Knowledge Digital Library (TKDL), the Biological Diversity Act, 2002, and international commitments under agreements like TRIPS and the Convention on Biological Diversity. Through this analysis, the paper seeks to identify gaps in the current legal framework and emphasizes the need for a more inclusive and effective system that balances innovation, protection, and the rights of indigenous and local communities. The research adopts a doctrinal method using statutes, case laws, international instruments, and secondary sources. The study concludes by suggesting measures to strengthen the legal protection of Indian Knowledge Systems while ensuring fair recognition and benefit-sharing.

Keywords: *Indian Knowledge Systems, Traditional Knowledge Protection, Intellectual Property Law, Biopiracy, Benefit Sharing*

Heritage to Hitsanrakshan: Traditional Knowledge and Intellectual Property in the Indian Knowledge System

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Abstract

India has taken pride in its long standing culturally embedded knowledge derived from the ancient scriptures and long lasting customised routines. This knowledge based intellect has been deemed to be useful for the agricultural practices, healthcare, and other natural life management. This knowledge has been rooted in the Indian Knowledge System (IKS). Even with such great value, traditional knowledge stands unprotected within the conventional nexus of intellectual property rights (IPR). This paper goes through the challenge of prioritising the individual ownership and formal documentation of the traditional practices in the Indian regime whilst comparing the human rights framework's analysis.

This paper entails the different legal mechanisms made in order to address the rising concerns of theft, misappropriation, biopiracy, etc. However these statutes mainly focus on the defensive side of safekeeping the traditional knowledge and refused to acknowledge the gravity of their legitimate rights owner. This also throws shade over the human rights concerning the recognition to cultural rights and its lineage, as well as one's livelihood security and any benefits from certain Scientifics of normal order among the rest. This also endangers their authenticity and dilutes down the significance of such sacred practices. India has frameworks like- Patent Act, 1970, the Biological Diversity Act, 2002, and the Traditional Knowledge Digital Library (TKDL) to safeguard the society.

Employing the doctrinal legal research, this paper shall talk about the constitutional approaches made to protect traditional knowledge and also explore the international instruments in the human rights department made like those of- International Covenant on Economic, Social and Cultural Rights and the United Nations Declaration on the Rights of Indigenous Peoples. This paper opines that there shall be an approach as to make the safeguarding of the traditional knowledge a rights oriented mechanism to achieve community participation, consent, and equitable access and benefit-sharing.

The paper concludes with the idea to achieve a more justice oriented framework for the traditional knowledge governed in India by the means proffered, keeping inclusion and sustainability in mind. These reforms or ideas shall integrate the IKS, with IPR routines to protect traditional knowledge.

Keywords: *Traditional Knowledge, Indian Knowledge System, Intellectual Property Rights, Human Rights, Traditional Knowledge Digital Library (TKDL), International Covenant on Economic, Social and Cultural Rights and the United Nations Declaration on the Rights of Indigenous Peoples.*

Deus Ex Machina or Ghost in the Machine? Re-calibrating The Indian Intellectual Property Regime for The Age of Generative AI

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Abstract

The digital revolution has similarly transformed the user from being a passive participant to an active participant with the ability to create content. The user-generated content includes memes, videos, blogs, and remixes, and it has become a part of the digital environment. The digital platforms on the internet, such as social media platforms, are important facilitators for the creation and innovation. The creators of the user-generated content want to be interactive with the users but the development of the digital content has given rise to issues related to intellectual property. This paper discusses the primary challenges that the copyright law poses with regard to user-generated content, with special attention to the Indian legal system.

The study adopts a doctrinal approach, with some comparative insights taken from other countries to help understand how different countries attempt to attain a balance in safeguarding copyright as well as promoting innovation and the spirit of expression. The outcome of the research is that the ambiguities within the Indian legal framework make it very difficult for content creators and digital intermediaries to comply with. The study highlights the need to have more clearly connected legal norms, which can achieve a proper balance between copyright protection and creative freedom in the rapidly growing digital space.

Keywords: *User-generated content, Copyright law, Intellectual property rights, Digital platforms, Indian legal framework.*

Navigating User Generated Content from Lens of Copyright: Legal Avenues and Challenges

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Abstract

The digital revolution has similarly transformed the user from being a passive participant to an active participant with the ability to create content. The user-generated content includes memes, videos, blogs, and remixes, and it has become a part of the digital environment. The digital platforms on the internet, such as social media platforms, are important facilitators for the creation and innovation. The creators of the user-generated content want to be interactive with the users but the development of the digital content has given rise to issues related to intellectual property. This paper discusses the primary challenges that the copyright law poses with regard to user-generated content, with special attention to the Indian legal system.

The study adopts a doctrinal approach, with some comparative insights taken from other countries to help understand how different countries attempt to attain a balance in safeguarding copyright as well as promoting innovation and the spirit of expression. The outcome of the research is that the ambiguities within the Indian legal framework make it very difficult for content creators and digital intermediaries to comply with. The study highlights the need to have more clearly connected legal norms, which can achieve a proper balance between copyright protection and creative freedom in the rapidly growing digital space.

Keywords: *User-generated content, Copyright law, Intellectual property rights, Digital platforms, Indian legal framework.*

Domain Name Disputes in the Indian Digital Start-up Ecosystem: A Trademark Law Perspective

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Abstract

India has the second-largest population in the world and is a developing nation. Lack of employment is a result of the expansion of population. India made a significant move toward startups in order to provide people employment. Generally speaking, a startup is a recently formed business which is in the early phases of development with an emphasis on innovation and expansion. Start-up entrepreneurship is essential to the nation's economic development. For startups to grow sustainably, intellectual property protection is essential. Domain name disputes are one of the challenges that digital startups encounter in the field of intellectual property.

A domain name is a type of virtual address that can be used to find a particular website while looking for a good or service. The trademark of a company or organization is typically included in a domain name. When people purchase domain names that are resembled identical or confusingly similar to trademarks or domain names of reputable companies with the goal of selling their goods under false pretences of being the original seller, domain name disputes result. Such actions damage the reputation and goodwill of reputable startups and undermine investors' confidence in making additional investments. The complicated, expensive, and time-consuming Domain name disputes redressal procedure and its relevance to Indian trademark law present additional difficulties for startups.

This research paper adopts a doctrinal approach and analyses the conceptual framework of Domain name disputes, emphasizing upon its typologies, its redressal mechanisms and the challenges faced by startups in Domain name disputes redressal. This paper also examines the interlinkage between the Domain name and trademark specially emphasizing upon the legal framework on trademark in India. This paper aims for providing reforms in redressing the Domain name disputes among Startups.

Keywords: *Start-up, Domain name, Trademark, Intellectual property, Disputes.*

Tapping the Economic Potential of AI Tools in Metagenomics: From Discovery to Commercialization

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Abstract

Metagenomics has revolutionized the analysis of non-cultivable microbial communities by enabling the direct examination of genetic DNA from diverse environments. However, the large scale, high heterogeneity, and computational complexity of metagenomic datasets limit rapid data interpretation and downstream commercialization. Artificial intelligence (AI; machine intelligence) tools are increasingly addressing these challenges by enhancing sequence (DNA/RNA) analysis, taxonomic classification, functional annotation of biological roles, and predictive modeling. This research paper emphasizes the commercial potential of AI-driven (algorithm-guided) metagenomics through widely used tools such as DeepMicrobes, MEGAN, CONCOCT, MaxBin, DeepBin, DeepARG, and AlphaFold for protein structure prediction. Advanced algorithmic frameworks, including random forest models, convolutional neural networks, and deep neural networks, enable rapid identification of novel genes, enzymes, antibiotics, and metabolic pathways from uncultured microorganisms. Collectively, these advances facilitate commercialization across pharmaceuticals, industrial biotechnology, agriculture, diagnostics, and environmental monitoring, thereby contributing significantly to economic growth and the emerging bioeconomy.

Keywords: *Metagenomics, uncultivated microbes, MEGAN, DeepMicrobes*

A Study of IPR in Shaping Startup and Innovation to Achieve Atmanirbhar Bharat

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Abstract

In today's time startups plays very crucial role in economic development, innovation, market efficiency, social impact etc. As time changes new startups are being introduced. India's startup ecosystem has witnessed significant growth due to IPR policies. This paper explores the positive of strengthened IPR framework, while also highlighting challenges through comparative analysis with other countries such as USA and China. The study shows the position of India and the necessary changes which will be beneficial. To achieve the vision of Atmanirbhar Bharat there is need for simplified IPR procedures, policy reforms and self-reliant startup growth. The vision of Atmanirbhar Bharat is based on five pillars namely Economy, Infrastructure, System, Vibrant Demography and Demand, all of which are closely supported by a strong startup ecosystem and effective IPR protection. The study concludes that although India has made notable progress in IPR-driven startup growth, strategic alignment with global best practices, along with targeted policy reforms, simplified IPR procedures, and increased awareness, is essential to strengthen the startup ecosystem and achieve long-term self-reliant economic growth.

Keywords: *Economic development, Vibrant Demography, Startups, Innovation, Social impact, Atmanirbhar Bharat.*

Patenting Biotechnological Inventions in India: Issues and Practical Challenges

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Abstract

Biotechnology is an intersection of science, commerce and law. It involves using living organisms or biological materials to come up with products and processes that will provide benefits to humans. Although the practise of biotechnology can be traced back centuries with techniques such as fermentation and selective breeding, contemporary biotechnology is far more advanced and involves such methods as recombinant DNA technology that essentially rewrites the genetic structure of living organisms. Biotechnological inventions involve the use of living organisms and biological processes, which makes it an extremely difficult question as to whether such subject matter involved constitutes an invention or a mere discovery, making it difficult to patent such innovations at times.

In past few years the number of biotechnology patent applications has increased significantly in India, as indicated by the Annual Reports of IP India. In the said context, the present study examines the legal and practical issues involved in obtaining patent protection for biotechnological inventions in India. It analyses the effects of current patent regime in balancing inventor's rights and public interest with a special focus on the issues related to disclosure obligations, examination quality, biosafety compliance, depository conditions, procedural delays, and claim drafting for biological materials. A key aspect of the study is patent eligibility and subject-matter exclusions, particularly on biological processes, under Section 3(j) of the act when it comes to Patents Law, 1970.

The methodology adopted in the studies incorporates both a doctrinal analysis (based on statutes, rules, guidelines and judicial interpretations) and an empirical analysis (based on data extracted from IP India's Annual Reports). It attempts to evaluate the effects of recent changes in the law, such as the Patents (Amendment) Rules, 2024, and analyse the trends in biological technology patents filing and grants. Overall, the research aims to identify areas of concurrence and conflicts across the legal and regulatory framework while suggesting measures that can promote predictability in biotechnology patenting while promoting responsible innovation along with public interest.

Keywords: *Biotechnology, Biotechnological Inventions, Biotechnological Patents, Biological Processes*

Intellectual Property Rights in India: A Study of the Complexities of Obtaining Patents and Remedies Against Patent Infringement

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Abstract

The conduct of a prohibited act in respect of a patented invention without the authorization of the patent holder is known as patent infringement. Generally, the permission is issued in the form of a license. Patent infringement is defined differently in different jurisdictions, although it generally includes the use or sale of a patented innovation. Patent law protects and safeguards original material and inventions made by authors which are in the form of computer effects which thus fall within the ambit of cyber jurisdiction. The Patent Act of 1970 provides for punishment for unauthorized access and use of patents of other original workers. It makes this act punishable by a fine and provides for imprisonment of up to two years.

Keywords: *Patent, Patent Act-1970, Remedies, WTO and Patent holder*

An Interplay Between Digital Piracy and Digital Rights Management in Streaming Industries

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Abstract

The digital works in the streaming industry are a broad spectrum that includes any work which has audio, video or both, capable of being protected under the Copyright Law. When such digital works are illegally accessed for entertainment or commercial purposes, an illegal act is called as digital piracy. Today, digital Piracy has become a handy malpractice and threat to the global streaming industries, encompassing copying, watching, renting, distributing, and consuming movies, live matches, music, daily soaps, and others. With the rapid growth of the streaming OTT platforms, the risk of protecting the digital content has risen. People find it very convenient to go for a third-party unknown application, rather than actually taking a subscription for the streaming platforms. Digital piracy is more often seen in the streaming industries, where every fraction of an hour new series or episodes are uploaded, and people, just to save money and to get entertained, tend to watch pirated versions of the content. To stop digital piracy, a key central instrument named Digital Rights Management (DRM) comes into play to secure copyrighted works in any form, preventing unauthorized copying and regulating how, where, and on which device content shall be used. The research provides an in-depth study of the DRM mechanism, encryption, license servers, user authentication, watermarking, and geo-blocking, adopting a mixed qualitative approach combining doctrinal analysis with an in-depth study of various forms of digital piracy with real-life examples. The key finding of the research paper is to analyze and investigate the interplay between digital piracy and digital rights management in streaming industries, including the regulatory framework and anti-piracy strategies. The findings suggest that the general public should be aware of digital piracy and its consequences. Furthermore, the researchers aim to provide effective and holistic strategies to reduce demand for unauthorized content.

Keywords: *Digital works, Digital Piracy, Copyright, Digital Rights Management, OTT Platforms.*

In the Era of Clean Energy Transition: India – A Strong Voice of Global South or Afflicted by Intercontinental Pressures

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Abstract

The global transition towards clean energy has become a central pillar of contemporary international governance, propelled by escalating climate risks, environmental degradation, and economic instability arising from fossil fuel dependence. Clean energy, encompassing renewable and low-carbon sources such as solar, wind, green hydrogen, and Atomic energy has been institutionally reinforced through major international frameworks such as the Paris Agreement and other. These instruments significantly influence national energy strategies, legal obligations, and climate commitments.

This study critically examines India's evolving role in the clean energy transition within the broader context of Global North–Global South dynamics. It seeks to assess whether India has emerged as a credible, autonomous leader of the Global South or remains structurally constrained by global economic, political, and trade pressures. By Using a traditional method, the research evaluates the necessity and applications of clean energy while analysing systemic asymmetries in global climate governance. Particular attention is paid to international legal regimes governing climate finance, I.P rights, trade barriers, and tariffs that disproportionately affect developing nations.

The findings reveal that developed countries continue to dominate agenda-setting, technological ownership, and financing mechanisms. India stands out as a leading developing economy, demonstrating significant progress in renewable energy capacity, policy reforms, and regional cooperation initiatives aimed at supporting neighbouring countries and the wider Global South. Nevertheless, India's transition remains hindered by persistent coal reliance, oil import dependence, limited access to critical energy minerals, and external trade challenges, tariffs imposed by developed economies

Lastly, concluded that these challenges can be mitigated through diversified energy portfolios, strengthened domestic research and development, alternative trade partnerships, and progressive

legal reforms. By leveraging its demographic, geographic, and economic advantages, India possesses the potential to enhance energy self-reliance and assert itself as reliable and independent voice of the Global South in the global clean energy regime.

Keywords: *Clean Energy, Legal framework, Self-reliant, Global South, Critical Minerals, Developed Nations, Sustainable development*

The Need for Legislative Overhaul for the Regulation, Administration and Ethical Streamlining of Generative AI Training Models in India

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Abstract

This paper is an attempt towards an exhaustive investigation and chronicling of the acute anatomical fissures in the legislative fabric of the Indian State's efforts towards the protection of Intellectual Property Rights in the context of Generative Artificial Intelligence (AI) Training Models. In pursuit of the same, the researcher utilizes a doctrinal approach to engage with the nascent, yet meteoric rise in the multi-fronted use of Generative AI tools trained through cataclysmic levels of non-consensual "scraping" of human-created data/knowledge by AI developers such as Open AI, along with its implications on the protection of Intellectual Property Rights of said human creators (including artists, authors, academicians etc.) in terms of the existing statutory framework in India that governs such procedures. The pursuit makes extensive use of primary data sources, including constitutional and legislative provisions, judicial precedents, as well as ongoing juridical debates and discourses regarding the same from within and beyond the court of law. Moreover, secondary sources, including academic produce, opinion pieces, as well as other essential knowledge is put to use extensively.

In making a conscious choice to treat the Copyrights Act, 1957 as the nucleus of the discourse, the distinct finding that the researcher arrives upon is the fact that the Indian IPR Superstructure palpably lacks an acknowledgement of, and remedy against Text and Data Mining (TDM) as an exploitative process that infringes upon IPR stakeholders on a colossal scale. In that light, he goes on to extensively discuss the need for a legislative overhaul of the IPR Superstructure in India, and chalks out a list of actionable suggestions that may be put to use in the gradual, but inevitable process of acknowledging the need for the ethical streamlining of the Generative AI industry, and the synthesis of legal instruments through which the rights of individual Human-Creators can be protected through the Rule of Law.

Keywords: *Generative AI Training Models, Copyrights Act, Text and Data Mining, Human-Creators.*

Blue Economy, Blue IP: Legal Protection of Marine-Based Innovations

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Abstract

The Blue Economy has gained global prominence as a framework for achieving sustainable economic growth through the responsible utilization of ocean and marine resources. Innovation in sectors such as marine biotechnology, offshore renewable energy, aquaculture, and ocean-based technologies is central to advancing this model. However, the legal protection of marine-based innovations remains inadequately addressed within existing intellectual property (IP) regimes, which were not designed to accommodate the ecological sensitivity and transboundary nature of marine ecosystems.

This paper examines the concept of “Blue IP” by analysing how intellectual property law can incentivize marine innovation while ensuring sustainability, biodiversity conservation, and equitable access to ocean resources. It critically evaluates the applicability of patents, trade secrets, geographical indications, and traditional knowledge protection in the context of marine resources. The study further explores the interaction between IP law and international legal instruments such as the TRIPS Agreement, the United Nations Convention on the Law of the Sea (UNCLOS), the Convention on Biological Diversity (CBD), and emerging biodiversity governance frameworks.

The paper identifies key challenges including bio-piracy, ownership of marine genetic resources, benefit-sharing mechanisms, and the tension between private IP rights and the public trust doctrine governing ocean commons. Through doctrinal and policy analysis, it argues that conventional IP frameworks require contextual adaptation to address the unique legal, ethical, and environmental dimensions of the Blue Economy. The paper concludes by proposing a balanced “Blue IP” framework that integrates innovation incentives with environmental sustainability and socio-economic equity. Such a framework is essential to ensure that intellectual property law serves not only as a mechanism for commercialization but also as a tool for responsible ocean governance and inclusive growth within the Blue Economy.

Keywords: *Blue Economy; Intellectual Property Law; Marine-Based Innovations; Marine Genetic Resources; Sustainability; Blue IP; Ocean Governance*

Creativity To Commerce: Copyright Law as a Catalyst for Start-up Growth In Atmanirbhar Bharat

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Abstract

In the present knowledge and digital economy, creativity has become a key source of innovation and economic growth. Creative start-ups play an important role in sectors such as digital media, software, design, music, films, publishing, and online content creation. Copyright law, as an important branch of Intellectual Property Rights, provides legal protection to original works and helps creators convert creative ideas into commercial value. In the context of Atmanirbhar Bharat, a strong and accessible copyright system is essential to support creative entrepreneurship and self-reliant economic development.

This paper analyses the role of copyright law in strengthening India's creative start-up ecosystem. It examines how copyright protection encourages innovation by granting exclusive rights to creators, preventing unauthorized use, and ensuring fair economic returns. For start-ups, copyright functions as an intangible asset that enhances brand identity, market credibility, and investor confidence. The paper adopts a legal and policy oriented approach to study the Copyright Act, 1957, and its relevance to modern creative businesses operating in digital spaces.

The paper further highlights major challenges faced by creative start-ups in India, including lack of legal awareness, digital piracy, weak enforcement mechanisms, and difficulties in protecting works online. It also evaluates government initiatives and institutional support systems aimed at promoting intellectual property awareness, ease of registration, and compliance for start-ups.

The study also analyses that copyright law must evolve with technological and market changes to remain effective. Strong enforcement, simplified procedures, and greater awareness are necessary to make copyright law more inclusive and start-up friendly. A balanced copyright framework can protect creators while promoting innovation and competition. Strengthening the copyright ecosystem will not only empower creative start-ups but also contribute meaningfully to India's goal of Atmanirbhar Bharat.

Keywords: *Copyright Law, Creative Economy, Start-Ups, Intellectual Property Rights, Atmanirbhar Bharat*

AI as Inventor from the Landscape of Patent Law: Potential and Hurdles

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Abstract

Artificial Intelligence has rapidly evolved from a supportive tool into an autonomous system capable of generating novel ideas, designs, and solutions. This development raises a fundamental question: can AI be considered an inventor? This abstract explores the conceptual foundations of inventorship by comparing human creativity with AI-generated innovation. Although humans invent tools, machines, and technologies, inventions do not occur in isolation. Most inventions are based on prior knowledge, societal ideas, and inspiration drawn from nature.

Artificial Intelligence has raised significant challenges in patent law, particularly with respect to inventorship. Traditional patent systems, including that of India, are founded on the principle that an inventor must be a human being. However, modern AI systems are increasingly capable of generating new products, processes, and technical solutions with minimal or no human intervention. Major intellectual property offices—such as the United States Patent and Trademark Office (USPTO), the European Patent Office (EPO), the United Kingdom Intellectual Property Office (UK IPO), and the Indian Patent Office—have generally rejected patent applications naming AI as an inventor. These offices maintain that an inventor must be a “natural person.” Since AI lacks legal personality, it cannot own, transfer, or inherit property rights, including patents. This situation creates a legal vacuum regarding the ownership and attribution of intellectual property generated by autonomous AI systems. This research paper mainly emphasising onto, Whether an Ai can be invertor under patent law? Which are the different challenges and issues in handling and management of AI when any invention is made?

Keywords: *Artificial Intelligence, Inventorship, Patent Law, Intellectual Property Rights, Autonomous AI Systems, Human Creativity, Legal Personhood.*

Accountability in the Age of Automation: Ethical Frameworks for AI-Enabled IP Decisions

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Abstract

As India moves toward “ आत्मनिर्भर भारत “ digital economy, the integration of Artificial Intelligence into the Intellectual Property ecosystem has transitioned from a futuristic concept to a functional necessity. This study aims to examine the critical gap in accountability that arises when autonomous systems influence or execute IP decisions- such as patentability assessments or copyright authorship. The primary objective is to propose a robust ethical framework that ensures transparency and responsibility without stifling the “Ideas to Innovation” spirit of the Indian startup landscape.

The research employs a doctrinal legal research methodology. It analyzes current Indian IP statutes, specifically the Patents Act and Copyright Act, alongside recent judicial trends regarding AI authorship. Furthermore, the study conducts a comparative analysis of international ethical guidelines to evaluate their applicability within the Indian socio-economic context.

The study identifies three primary challenges: the “Black Box” problem, where AI decision-making logic is opaque; the lack of legal personhood for AI under current Indian law; and the risk of algorithmic bias in prioritizing startup innovations. Findings suggest that while AI significantly enhances efficiency in searching and filing, the current legal framework is ill-equipped to assign liability for “erroneous” IP grants made by automated systems. There is an urgent need for “Explainable AI” (XAI) to ensure that IP decisions remain contestable and fair.

The study concludes that for an IP ecosystem to truly empower startups, accountability must remain human-centric. It recommends a “Human-in-the-Loop” (HITL) regulatory model where AI assists in decision-making but legal accountability rests with human controllers. Implementing such an ethical framework will safeguard the integrity of आत्मनिर्भर भारत, ensuring that innovation is governed by the principles of justice, transparency, and ethical responsibility.

Keywords: *Intellectual Property Rights, Artificial Intelligence, Accountability, आत्मनिर्भर भारत, Ethics, Explainable AI.*

Protecting Traditional Medicinal Knowledge from Bio-Piracy

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Abstract

Traditional medicinal knowledge (TMK) represents centuries of accumulated wisdom developed by indigenous and local communities for the prevention and treatment of diseases. However, this valuable heritage is increasingly threatened by bio-piracy, where corporations and researchers exploit biological resources and associated traditional knowledge without proper authorization, acknowledgment, or benefit-sharing. Such practices not only undermine the rights of indigenous communities but also weaken cultural identity and sustainable healthcare systems.

This paper examines the growing problem of bio-piracy in relation to traditional medicinal knowledge and evaluates the effectiveness of existing legal and institutional mechanisms aimed at its protection. It analyzes international frameworks such as the Convention on Biological Diversity (CBD), the Nagoya Protocol, and the TRIPS Agreement, along with national initiatives like India's Biological Diversity Act, 2002 and the Traditional Knowledge Digital Library (TKDL). The study highlights key cases of bio-piracy involving turmeric, neem, and basmati rice to demonstrate the practical challenges in enforcing intellectual property rights over traditional knowledge.

The research further explores ethical concerns, benefit-sharing models, and community participation as essential components of sustainable protection strategies. It argues that mere documentation is insufficient unless supported by strong legal enforcement, awareness among indigenous communities, and international cooperation.

The paper concludes that protecting traditional medicinal knowledge from bio-piracy requires a balanced approach integrating legal safeguards, technological documentation, and recognition of community ownership. Strengthening these mechanisms is vital not only for preserving cultural heritage but also for ensuring equitable and sustainable use of biological resources in global healthcare and pharmaceutical research.

Keywords: *Bio-Piracy, Traditional Medicinal Knowledge, Indigenous Rights, Intellectual Property Law, Biological Diversity*

Idea to IP: Issues, Challenges and Barriers in India's Startup Innovation Ecosystem

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Abstract

India's startup ecosystem, the third-largest globally, is undergoing a transition from rapid growth to sustainable, innovation-driven development. In this context, the conversion of ideas into protected intellectual property (IP) has become a critical determinant of startup competitiveness, valuation, and survival. Despite supportive frameworks such as Startup India, Startup India 2.0, the National IPR Policy, and the Scheme for Facilitating Startups Intellectual Property Protection (SIPP), Indian startups face persistent challenges in the "Idea to IP" pipeline. These include limited IP awareness, procedural delays, examination bottlenecks, high lifecycle costs, legal ambiguities under Sections 3(k) and 3(d) of the Patents Act, and uneven access to professional guidance. Sectoral and regional disparities further exacerbate these barriers, affecting deep-tech, AI, FinTech, and health startups disproportionately. Prolonged pendency and weak IP portfolios also reduce valuation multiples and limit negotiation power with investors and global incumbents. This study employs a descriptive-analytical approach using secondary data from CGPDTM, WIPO, and IP India reports to analyze trends, challenges, and systemic bottlenecks. Recommendations focus on capacity building, legal clarity, cost rationalization, IP literacy, and enhanced commercialization mechanisms. Strengthening the "Idea to IP" pipeline is essential for translating innovation into enforceable and commercially viable IP, enabling India's startups to achieve global competitiveness.

Keywords: *Start-ups and Innovation, Intellectual Property Protection, Idea-to-IP Pipeline, Patent System Challenges, Startup India Ecosystem*

The Paradox of Preservation: Balancing Intellectual Property Protection and Open Access for Traditional Environmental Knowledge

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Abstract

Traditional Environmental Knowledge (TEK) serves as a critical repository of ecological wisdom, offering sustainable alternatives to modern resource management. However, the legal discourse surrounding Traditional Environmental Knowledge is increasingly polarized between two paradigms: Protection, which emphasizes community sovereignty and intellectual property rights, and Open Access, which advocates for the free exchange of data to accelerate global climate resilience. This paper will examines the socio-legal tension arising from the “enclosure” of Traditional Environmental Knowledge through restrictive legal frameworks versus its “commodification” in the digital public domain. The study will adopts a juridical-normative approach, analyzing international instruments such as the Nagoya Protocol and the Convention on Biological Diversity (CBD). It argues that while Open Access platforms like the Traditional Knowledge Digital Library (TKDL) are vital for preventing biopiracy, they often inadvertently expose sacred or community-specific knowledge to unauthorized commercial exploitation without equitable Access and Benefit-Sharing (ABS). Doc-trinal method & both primary & secondary data will be used in the Research. The research will identifies a “legal gap” in current Intellectual Property (IP) regimes, which prioritize individual innovation over the collective, intergenerational nature of indigenous knowledge. To resolve this, the paper will proposes a tiered-access framework—a hybrid model that distinguishes between “Sacred/Secret Knowledge” (requiring strict protection) and “Common Ecological Knowledge” (available for collaborative research). Ultimately, this paper will concludes that the sustainable protection of Traditional Environmental Knowledge requires a shift from Western-centric IP norms toward Legal Pluralism, ensuring that the “openness” of environmental data does not come at the cost of the cultural and economic sovereignty of knowledge holders.

Keywords: *Traditional Environmental Knowledge (TEK), Access and Benefit-Sharing (ABS) Biopiracy, Intellectual Property Rights, Global Environmental Governance*

Reconceptualizing the Commons: A Critical Examination of Intellectual Property Rights and Community Resources

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Abstract

The rapid expansion of intellectual property rights has significantly transformed the legal governance of resources historically managed as commons. Knowledge, culture, biodiversity, and traditional practices which once collectively accessed and shared are now increasingly subjected to proprietary control. This shift has raised critical concerns regarding the compatibility of contemporary intellectual property regimes with constitutional commitments to social justice, equitable distribution, and the common good.

Within this context, the study undertakes a critical evaluation of the implications of expanding intellectual property protection for community resources traditionally governed as commons. Drawing upon the normative framework of the Directive Principles of State Policy (DPSP), which envisage the distribution and management of community resources which subserves the common good, the research assesses whether the growing privatization of such resources advances inclusive development or instead privileges economic growth at the expense of collective access, social equity, and communal welfare.

The study adopts a traditional legal research methodology, involving an analytical examination of constitutional provisions, judicial pronouncements, international legal instruments, and scholarly literature relating to intellectual property law, commons theory, and community resource governance. A comparative evaluation of legal and institutional mechanisms designed to safeguard community interests is undertaken to assess their conceptual coherence, legal adequacy, and effectiveness in practice.

The analysis reveals a structural imbalance within the prevailing legal framework; wherein strong intellectual property protection has contributed to the enclosure of the commons and the marginalization of collective and community-based governance models. Such disproportionate protection has generated significant human rights concerns, adversely affecting access to livelihoods, cultural

heritage, traditional knowledge, and essential resources. The study concludes by emphasizing the need for a recalibrated legal framework that harmonizes innovation with social justice through the development of benefit-sharing mechanisms and sui generis systems responsive to the distinctive character of community resources.

Keywords: *Intellectual Property Rights, Community Resource Governance, Directive Principles of state policy, Benefit-sharing mechanism, legal framework*

The Creative Economy and Copyright Rights: A Delicate Balance between Innovation and Protection

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Abstract

The Creative Economy, fuelled by innovation and technology, is a significant contributor to India's GDP employing millions and driving cultural diversity. But the success of this economy hinges on the protection of the Copyrights, one of the important dimensions of the Intellectual property rights. The creative economy thrives when copyrights are protected, incentivizing innovation and growth. India as a developing nation and the 4th largest economy of the world must harmonize robust enforcement mechanism to protect copyright rights along with advancing in technology to foster international cooperation and cultural respect for intellectual property rights. In this article, the researcher will highlight the various copyright rights available in India and explore the intersection of copyright rights and the creative economy in India, analyzing the challenges, opportunities and the way forward. The primary purpose of this paper is to examine how copyright protection impacts India's creative economy. The main objective of the paper is to assess the piracy's impact on revenue and economy, evaluating government initiatives and laws and proposing certain reforms to efficiently implement the copy right laws. The researcher will also compare India's Copyright Laws with the global Copyright Laws of Us and European Union and analyze various case studies to get a clear picture of the prevalent copyright violation in the digital age. Hence, safeguarding copyright laws and ensuring public in creative economy will make India a global creative hub and Vishwaguru as reimagined.

Keywords: *Copyright, Creative economy, Intellectual property rights, Digital age.*

Intellectually weaponizing weapons: India

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Abstract

Until the last century, intellectual property rights functioned as legal mechanisms designed to safeguard individual control over the products of intellectual creativity. In the new era of globalization lead by knowledge based economic growth and innovations, Intellectual Property Rights is no longer a domain limited to individuals. It had involved to a level of influencing the policies and having significant impact upon the economy and development of a country and as well as the whole world. This research studies the intersection of Intellectual Property Rights and Defence Technologies from the Indian perspective, focusing on how its IPR framework can influence the geopolitical world order. The study explores dual nature of defence technologies, the challenges faced by the current system and the implication of IPR protection. The research analysis global case studies of military's technological development and regulatory mechanism to identify gaps and propose solution for fostering new world innovation. This study seeks to contribute to the creation of a separate legal framework of IPR for defence related innovations in India to use it as leverage in global negotiation, without stifling technology advancement in defence sector.

Keywords: *IPR, Defence technologies, geopolitical influence, innovation and national security, Indian IPR framework*

Overcoming IPR Policy Paralysis in India: Analysing the Role of NITI Aayog

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Abstract

Indian policy paralysis has long hampered the country's intellectual property rights (IPR) environment, which is characterised by protracted delays in legislative reforms, bureaucratic inertia, and misalignment with international standards under the TRIPS Agreement. This stagnation hinders the development of the innovation ecosystem, leading to limitations on foreign direct investment (FDI), technology transfer, and domestic research and development (R&D) in key sectors such as pharmaceuticals, biotechnology, and IT. The authors here examine the pivotal role of NITI Aayog, India's premier policy think tank, in catalysing IPR modernisation amid these challenges.

By analysing policy documents and comparing the same at global level, the study shows how NITI Aayog's strategic actions, such as aligning with the National IPR Policy (2016) and support through Atal Innovation Mission (AIM) and other policies has played a crucial role in overcoming the impasse. Key findings show how NITI's multi-stakeholder forums sped up rules for compulsory licensing, strengthened evergreening protections, and integrated intellectual property rights (IPR) into the framework of Atmanirbhar Bharat. This has led to a significant rise in patent filings from 2018 to 2024. However, ongoing obstacles such as deficiencies in enforcement and the long pendency of litigations pertaining to IPR continue, highlighting the constraints in coordinating at the federal level.

In summary, NITI Aayog is seen as a dynamic force in renewing the IPR policies, but continuous advancement requires strong legal support, digital systems for IP management, and collaborations between the public and private sectors. By prioritising these, India can transform its IPR regime from a barrier to a springboard for inclusive growth and global competitiveness.

Keywords: *Intellectual Property Rights (IPR), Policy Paralysis, NITI Aayog, Innovation Ecosystem, Atmanirbhar Bharat*

Storytelling, Songs and Speech: The Role of Oral Tradition in Sustaining Tribal Languages in Gujarat

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Abstract

Oral tradition remains a vital foundation for the survival and continuity of tribal languages in India, particularly in regions where written forms of communication have historically been absent or marginal. In the tribal areas of Gujarat, including Chhota Udepur, Panchmahal, Dang, Valsad, Tapi, and Narmada, storytelling, folk songs, ritual chants, and everyday speech continue to function as living repositories of language and knowledge. These oral forms not only convey cultural values and historical memory but also play a critical role in sustaining linguistic structures such as vocabulary, pronunciation, idioms, and narrative patterns.

This paper explores the role of oral tradition as a dynamic and community-driven process through which tribal languages are transmitted across generations. Drawing on qualitative observations and community-based insights, the study examines how elders, performers, and collective gatherings act as informal institutions of language learning. Storytelling sessions, seasonal songs, and ritual performances create shared spaces where language is practiced, reinforced, and adapted to changing social contexts. Unlike formal education systems that often prioritise dominant languages, these oral practices preserve linguistic diversity by embedding language within everyday life.

The paper also addresses contemporary challenges affecting tribal languages in Gujarat, including increased exposure to mainstream education, migration, mass media, and socio-economic transformation. These factors have contributed to language shift among younger generations, weakening traditional modes of oral transmission. In this context, the study argues that oral traditions must be recognised not merely as cultural expressions but as essential mechanisms of language preservation.

By emphasising the central role of community participation, the paper underscores the need for inclusive language preservation strategies that respect indigenous knowledge systems. Recognising and supporting oral traditions can contribute significantly to safeguarding tribal languages and sustaining cultural identity in Gujarat's tribal regions.

Keywords: *Oral Tradition, Tribal Languages, Indian Knowledge System, Gujarat Tribal Areas, Role of Community*

Role of India's AEO Programme in Strengthening IP Protection at Borders

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Abstract

The Authorized Economic Operator (AEO) Programme of India, implemented by the Central Board of Indirect Taxes and Customs (CBIC) in alignment with the World Customs Organization (WCO) SAFE Framework of Standards, plays a critical role in balancing trade facilitation with effective border enforcement. This study examines the contribution of India's AEO Programme in strengthening Intellectual Property Rights (IPR) protection at borders, with specific emphasis on prevention and seizure of counterfeit and pirated goods and protection of patented and copy-righted innovations, particularly for start-ups and innovation-driven enterprises.

The primary objective of this research is to analyse the correlation between AEO compliance, Customs risk management, and enhanced IPR enforcement under the Indian Customs framework. The study adopts a doctrinal and analytical methodology, drawing upon CBIC circulars, Customs legislation, WCO standards, and secondary sources such as policy documents and enforcement reports. The analysis is supplemented by illustrative cases demonstrating the operational interface between AEO entities and Customs authorities.

The study finds that AEO-certified operators, owing to high levels of legal compliance, robust internal controls, and secure supply chain practices, enable Customs authorities to apply risk-based selectivity more effectively. This facilitates targeted inspections, improves detection and seizure of infringing goods, and optimises deployment of enforcement resources. AEO status also indirectly supports innovation protection by fostering a trusted trade environment that restricts circulation of counterfeit goods and safeguards commercial interests of start-ups and legitimate rights holders.

The study concludes that the AEO Programme functions as a strategic border IPR enforcement tool supporting Atmanirbhar Bharat objectives.

Keywords: *Authorized Economic Operator, CBIC, Customs Risk Management, Intellectual Property Rights, Counterfeit Goods, Trade Facilitation, Start-ups.*

AI-generated Works: Authorship, Ownership & Revenue Models

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Abstract

The rapid growth of Artificial Intelligence (AI) is changing how we make music, art, and stories. Usually, our laws say that only a human can be an “author” and own the Copyright. But now, AI can make things by itself. This creates a big question: who owns the work? Is it the person who typed the prompt, or the person who programmed the AI? In India, our laws are very old and they only recognize “natural persons” as owners. Because of this, AI-generated work is in a “grey area” where nobody knows who truly owns the rights or the money.

There are many new ways to make money from AI, like subscriptions and licensing. But there are also many problems. AI uses the work of real artists to “learn,” and many people think this is stealing. Also, we don’t have clear rules for fair compensation. My study shows that India and other countries need to change their laws quickly. We need new legal reforms that protect the hard work of humans but also allow new technology to grow. If we have clear rules, it will be better for the creators and the whole society.

Keywords: *Artificial Intelligence, Copyright Law, Authorship, AI-Generated Works*

Re-Conceptualising ‘Authorship’ and ‘Inventorship’ in The Era of Artificial Intelligence: Towards a Human-AI Collaborative Framework

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Abstract

Artificial intelligence presents a fundamental challenge to the anthropocentric foundations of intellectual property law. Traditional copyright and patent regimes presume human creativity and agency as prerequisites for intellectual property rights. Yet contemporary AI systems autonomously generate literary, artistic, and technical works that arguably satisfy the historical criteria for protection like novelty, originality, and inventive step etc. without direct human creative input. This paper critically examines the DABUS litigation across multiple jurisdictions, the evolving jurisprudence in the United States, India, Australia, and the European Union, and proposes a normative framework recognizing “human-AI collaborative authorship” as a distinct legal category. Rather than granting AI independent authorship or inventorship status, this framework allocates ownership rights to human actors exercising meaningful creative control while preserving copyright and patent law’s foundational human-centric structure. The analysis interrogates whether existing provisions of India’s Copyright Act, 1957 (Sections 2(d), 13) and Patents Act, 1970 (Sections 2(1)(p), 6) can accommodate AI-generated works through interpretive flexibility or whether legislative amendment is constitutionally required.

Keywords: *Artificial Intelligence, Authorship, Inventorship, Copyright Law, Patent Law, Indian IP Law, DABUS, Human-AI Collaboration*

What's The Future: AI or IP?

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Abstract

Intellectual Property Rights (IPR) are the legal protections given to people for the creation they did by self. Just as the law protects physical property like a house or a car, IPR protects intangible assets such as inventions, books, music, logos, and inventions. These rights (which include copyrights, patents, and trademarks) allow creators to control how their work is used and earn financial rewards for their efforts.

However, the rise of Artificial Intelligence (AI) is questioning the legacy of IPRs, i.e. questioning if human work is even necessary or not. Historically, IP laws used to protect human generated work but today, Generative AI can write stories, paint pictures, and design new products in seconds. This creates a question that if a machine creates something, who owns it? Is it the person who wrote the prompt, the company that built the AI, or is the work doesn't have a owner because no human was involved? Anciently, IPRs used to show why and how Human touch is important to things but today, AI has taken away the landscape and human touch almost has been lost.

This abstract examines three of the few main problems: Ownership/Recognition: Current laws in most countries (like the US and India) only recognize humans as inventors or authors. The effort of authors/inventors/researchers should be recognized to as to keep maintaining the legacy and significance of natural and the "og" touch.

Training Data: AI models are trained very thoroughly by going through many already existing works on the web. We must decide if this is "fair use" or if AI companies should pay the original artists for using their data which they should.

Infringement: AI can now easily mimic an artist's style or a brand's logo, making it harder to protect original brands and creators.

Solving these issues is must because if human resources would not be protected and continuously

exploited, humans will stop adding their own touch to things. A short description of solutions of the above given problems is listed below: Ownership: Hybrid labels (AI-Assisted) and verifiable human-origin metadata

Training Data: Collective licensing funds and “Opt-In” mandates.

Infringement: Expanding Right of Publicity to cover “Digital Style” and using anti-scraping tech.

The study concludes that our old laws need a “Digital Upgradation and Understanding.” We propose a new system that gives credit based on how much a human is actually guided by AI. By creating clearer rules, we can encourage new technology while still making sure human creativity is respected and rewarded.

Keywords: *Artificial Intelligence, Intellectual Property Rights, AI-Generated Works, Copyright Law, Human Creativity*

Factors Influencing the Commercialization of Intellectual Property in Higher Education Institutions: A Systematic Literature Review

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Abstract

This systematic literature review examines the factors influencing the commercialization of intellectual property (IP) in higher education institutions (HEIs) using the integrated Antecedents–Decisions–Outcomes–Theory–Context–Method (ADO–TCM) framework. Guided by the PRISMA protocol, the study analyzes 60 peer-reviewed journal articles through qualitative thematic synthesis supported by bibliometric and network analysis using VOSviewer. The findings reveal that IP commercialization in HEIs is a systemic and context-sensitive process shaped by the interaction of institutional antecedents—such as supportive IP and startup policies, Technology Transfer Office (TTO) maturity, researcher motivation, access to translational funding, market orientation, ecosystem readiness, and Industry driven technological change—and strategic decisions related to IP ownership and royalty sharing, technology evaluation and selection, commercialization pathways, TTO governance, partnership mechanisms, and faculty incentive structures. These decisions mediate commercialization outcomes, which include increased patenting and licensing activity, startup and spin-off formation, strengthened industry collaboration, regional innovation impact, and enhanced institutional visibility, although financial returns remain highly skewed toward a limited number of institutions. The study concludes that effective intellectual property (IP) commercialization is not a singular event but a coordinated outcome shaped by the alignment of multiple interdependent factors.

Keywords: *Intellectual property commercialization; Higher education institutions; Technology transfer; ADO–TCM framework; Factors Influencing IPR commercialization*

Balancing Creditors' Rights and Protection of Strategic IP Assets under the Insolvency Regime

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Abstract

The insolvency of companies holding sensitive or strategic intellectual property (IP) assets presents complex legal and policy challenges under the Insolvency and Bankruptcy Code, 2016 (IBC), particularly in sectors related to national security, defence technologies, and critical infrastructure. This paper examines the inherent tension between the IBC's objective of protecting creditors' rights through time-bound resolution and value maximisation, and the need to safeguard strategic IP assets that have significant national and sovereign implications.

The purpose of this study is to assess whether the current Indian insolvency framework adequately addresses the risks arising from the transfer, licensing, or liquidation of sensitive technologies during insolvency proceedings. The research adopts a doctrinal and analytical methodology, relying on statutory analysis of the IBC, relevant rules and regulations, judicial precedents, government policies on defence and strategic technologies, and comparative perspectives from selected international insolvency regimes. Secondary sources, including policy reports and expert commentaries, are used to support the analysis.

The study finds that although the IBC provides an efficient mechanism for resolution and creditor protection, it lacks explicit safeguards for strategic and security-sensitive IP assets. The absence of structured screening and regulatory oversight during resolution may lead to unintended transfer of critical technologies to unsuitable or foreign entities, thereby posing potential national security risks. The research highlights the need to recognize strategic IP as distinct from ordinary commercial assets within insolvency proceedings.

The paper concludes that targeted policy reforms are essential to harmonize insolvency objectives with national security concerns. It recommends sector-specific protections, enhanced governmental oversight in resolution plans involving strategic IP, and greater coordination between insolvency authorities and security regulators to ensure balanced and secure outcomes.

Keywords: *Insolvency and Bankruptcy Code, Strategic Intellectual Property, Creditors' Rights, National Security, Defence Technologies, Policy Reforms*

Challenges in Copyright Enforcement: Analyzing Digital Piracy on Streaming Platforms

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Abstract

The rapid expansion of the digital streaming industry, encompassing music, film, and software, has fundamentally transformed content distribution and consumption, offering unprecedented accessibility and convenience to users. However, this technological paradigm shift has simultaneously intensified the pervasive problem of digital piracy, which poses a significant threat to copyright holders and the long-term sustainability of the creative economy. This paper examines the complex interplay between widespread online piracy networks and the efficacy of Digital Rights Management (DRM) technologies and legal frameworks in the streaming era.

The research first analyzes the various forms of contemporary digital piracy, including illegal streaming services, peer-to-peer (P2P) file sharing, and the use of encrypted social media platforms, highlighting the substantial financial losses and dampened creative incentives for content creators and production houses. It then critically evaluates existing countermeasures, such as the implementation of encryption, digital watermarking, and conditional access systems. The study identifies key challenges in the enforcement and prosecution of digital piracy, such as the internet's global and often anonymous nature, jurisdictional difficulties, and the ongoing "arms race" between DRM developers and circumvention techniques.

Furthermore, the paper addresses the tension between stringent rights management measures and legitimate consumer rights, such as fair use, privacy, and content interoperability across different devices. We propose a multifaceted framework that integrates stronger legal mechanisms, international cooperation, and a balance of technological solutions (including the potential of blockchain for transparent licensing) with business models that enhance user satisfaction and awareness. This research aims to provide insights for developing more effective, equitable, and sustainable strategies to safeguard intellectual property rights in the dynamic digital streaming landscape.

Keywords: *Digital Streaming Industry, Digital Piracy, Watermarking, Copyright, I P Rights*

Block Chain, Custom Administration, and Strengthening of IP Enforcement in Global Trade

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Abstract

The rapid growth of global trade has intensified challenges related to counterfeit goods, intellectual property (IP) violations, and illicit cross-border movements, placing significant pressure on customs and law enforcement agencies. In this context, blockchain technology has emerged as a transformative digital tool with the potential to strengthen IP enforcement while simultaneously supporting trade facilitation and ease of doing business. This study examines the role of blockchain in customs administration and its contribution to enhanced IP enforcement through anti-counterfeiting measures, provenance tracking, and inter-agency cooperation.

The primary purpose of this research is to analyze how blockchain-enabled systems can support customs authorities and police agencies in preventing IP infringements and improving enforcement outcomes in global trade. The study adopts a doctrinal and analytical research methodology, supported by a review of customs laws, IP enforcement frameworks, policy reports, and international best practices. Secondary sources and illustrative global use cases are examined to assess the practical relevance of blockchain applications in border management.

The study finds that blockchain technology enhances transparency, traceability, and data integrity across supply chains, enabling real-time verification of product origin and authenticity. These features significantly strengthen the capacity of customs and police authorities to detect counterfeit goods, reduce document fraud, and improve risk assessment. Blockchain-based information sharing also facilitates greater cooperation among customs administrations, enforcement agencies, and rights holders, leading to more targeted and effective interventions.

The study concludes that blockchain adoption in customs administration can serve as a strategic enabler for stronger IP enforcement without compromising trade facilitation. It recommends phased implementation, legal recognition of digital records, and capacity building for enforcement agencies to fully realize blockchain's potential in promoting secure, transparent, and innovation-friendly global trade.

Keywords: *Blockchain Technology, Intellectual Property Enforcement, Customs Administration, Anti-Counterfeiting, Global Trade*

Legal Protection and Recognition of Traditional Knowledge: A Study of Village Wisdom and Folk Healers

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Abstract

The true essence of India resides in its villages. Despite India reaching new milestones in global progress, a significant portion of the population continues to reside in village areas. The culture of the village is ancient, diverse, and characterized by unique social norms and traditions. Central to this lifestyle is Traditional Knowledge—a repository of wisdom passed down through generations, sustained by its practical utility and proven results.

Currently, we are witnessing a trend where people who initially moved from villages to cities are now looking back toward village life. This shift is driven by the effectiveness of traditional practices and their successful outcomes. Examples of this profound knowledge include the use of Arjuna bark for heart ailments, Camphor for air purification, Mahua and Amla for nutrition and medicine, Ashwagandha for stress management, and the use of Jamun seeds and Vijaysar powder as an effective cure for diabetes.

In village communities, this specialized knowledge is not possessed by everyone; it is preserved by specific individuals known as 'Bhagats'. While these practitioners may have little to no formal academic education, the results of their traditional treatments are remarkably successful. However, this invaluable knowledge and its practitioners face significant challenges regarding formal recognition. This research paper focuses on the critical need for providing legal protection and institutional recognition to traditional knowledge and its healers. It further explores the difficulties faced by these traditional practitioners and discusses legal frameworks to ensure that both the practitioners and society benefit more effectively from this heritage.

Keywords: *Traditional Knowledge, Indigenous Healing Practices, Village Communities, Legal Protection, Indian Knowledge Systems*

Analytical Study on Government Encouragements for IP Mechanism and Efficacy of DPIIT Schemes Relating to Start-ups

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Abstract

Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. IP is protected in law by, for example, patents, copyright and trademarks, which enable people to earn recognition or financial benefit from what they invent or create. By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish.

India's intellectual property policy is outlined in the National IPR Policy, which came in to effect on May 12, 2016. The Policy emphasizes the wealth of creative and innovative resources that exist in India and the necessity of utilizing and developing such resources in the direction of a more promising future for everybody. The National IPR Policy is a vision statement that seeks to establish and take advantage of synergies between relevant statutes, agencies, and all types of intellectual properties (IPs). It establishes an institutional framework for execution, oversight, and evaluation. It seeks to apply and modify international best practices to the Indian context. The government, R&D firms, academic institutions, business, especially MSMEs and start-ups, and other stakeholder will be contributed to strengthen this policy.

The main purpose of this study is to examine various initiatives taken by the government to encourage by the way of incentives and formalities support via various mechanism and efficacy of DPIIT (Department for promotion of Industry and Internal Trade) through different schemes relating to Start-ups and various Tech-Innovation in the various fields with the help of statistical data available. In addition, go through the speeches of Hon'ble Prime Minister which are delivered on various public stages.

To understand various kind of grievances which have been facing by the stakeholders and innovators its redressal mechanism established by the government institutions. For this study researcher

adopts doctrinal research methodology, which is mainly based on existing laws, by-laws, regulations, available legal documents of concern title, related judicial pronouncement. Importance finding of this study through analysis would be whether the present government's incentives for IP creation and registration is user friendly and time-bound along with it, to analyse that the present mechanism for start-ups is impactful through the sight of DPIIT schemes.

The researcher concludes this study by insight of his present limited analysis give valuable inputs by way of suggestions in order to make this present mechanism more user-friendly and in true sense works in ease of doing business.

Keywords: *Intellectual Property Policy, National IPR Policy, DPIIT, Start-ups and Innovation, Ease of Doing Business*

GST as a Tool of Economic Diplomacy: Strengthening India's Foreign Policy through Trade and Innovation

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Abstract

The Goods and Services Tax (GST) represents one of India's most significant economic reforms, aimed at creating a unified domestic market and enhancing ease of doing business. Beyond its internal fiscal objectives, GST has emerged as a strategic instrument of economic diplomacy, influencing India's engagement with global trade norms, investment regimes, and innovation ecosystems. This study examines the role of GST in strengthening India's foreign policy objectives by aligning domestic tax structures with international best practices and enhancing global competitiveness.

The primary purpose of this research is to analyze how GST harmonization contributes to India's economic diplomacy by improving trade facilitation, supporting innovation, and strengthening India's position in global intellectual property (IP) rankings. The study adopts a doctrinal and analytical research methodology, drawing upon GST legislation, policy documents, international trade agreements, investment treaties, and reports from global institutions. Secondary data and comparative analysis are used to assess GST's impact on cross-border trade and investment flows.

The study finds that GST has reduced cascading taxes, enhanced supply chain efficiency, and improved tax transparency, thereby aligning India's indirect tax framework with global trade norms. These reforms have strengthened investor confidence, supported participation in global value chains, and indirectly fostered innovation by reducing compliance costs and encouraging formalization. Improved tax governance and predictability under GST also contribute to a favourable environment for intellectual property creation and protection, positively influencing India's global IP standing.

The study concludes that GST functions not merely as a domestic tax reform but as a tool of economic diplomacy that supports India's foreign policy objectives. By reinforcing trade competitiveness, innovation, and investor confidence, GST enhances India's strategic economic engagement in the global arena.

Keywords: *Goods and Services Tax, Economic Diplomacy, Foreign Policy, Global Trade Norms, Intellectual Property, Investment Treaties, Competitiveness*

The Evolution of India's Global Innovation Landscape: A Longitudinal Analysis of PCT Patenting Trends, Key Players, and Technological Shifts (2000–2025)

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Abstract

This paper analyzes **44,055 PCT applications** with Indian priority filed between January 1, 2000, and December 31, 2025, out of a global pool of **4,851,925 applications**. Utilizing data from the **PatSeer (Premier+ version)** as of 10.01.2026, the study maps the evolution of India's innovation from a pharmaceutical-heavy landscape to a diversified digital and communication powerhouse. Key findings highlight the dominance of the **Samsung Group** (2,427 filings) and the meteoric rise of **Reliance Industries Ltd**, which recorded a singular spike of 1,001 applications in 2024. The analysis identifies critical gaps in India's domestic IP infrastructure compared to global leaders like China and South Korea and suggests strategic “work-up” points to enhance global competitiveness.

Keywords: *PCT Applications, Patent Analytics, Indian Innovation System, Global Intellectual Property, Technology Diversification*

Gender-Inclusive IP Policies & Start-up Ecosystem

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Abstract

Gender-inclusive intellectual property (IP) policies play a crucial role in shaping an equitable and innovation-driven start-up ecosystem. Despite the growing participation of women and gender-diverse individuals in entrepreneurship, significant disparities persist in access to IP awareness, ownership, financing, and commercialization opportunities. Structural barriers such as limited legal literacy, gender bias in funding mechanisms, underrepresentation in STEM-driven ventures, and weak institutional support often prevent innovators from effectively protecting and leveraging their intellectual assets. This abstract examines the intersection between gender-inclusive IP frameworks and the development of a sustainable start-up ecosystem, emphasizing the need for policy reforms that recognize diversity as a driver of innovation.

The study highlights how inclusive IP policies—such as simplified patent procedures, targeted IP facilitation centres, fee concessions, mentorship programmes, and gender-sensitive innovation incentives—can enhance participation from underrepresented genders in start-ups. By enabling equitable access to IP protection and enforcement mechanisms, such policies strengthen confidence among entrepreneurs, attract investment, and promote commercialization of innovation. Furthermore, gender-inclusive IP regimes contribute to broader socio-economic goals by fostering inclusive growth, employment generation, and technological diversity.

The abstract also underscores the importance of collaboration between governments, IP offices, academic institutions, incubators, and financial bodies to mainstream gender perspectives into IP governance. Integrating gender-disaggregated data, promoting capacity-building initiatives, and embedding inclusivity within start-up and innovation policies are essential steps toward bridging the existing gap. Ultimately, a gender-inclusive approach to IP not only advances equality but also enhances the resilience and competitiveness of the start-up ecosystem, ensuring that innovation reflects diverse experiences, needs, and solutions in a rapidly evolving global economy.

Keywords: *Gender Inclusivity, Intellectual Property Policy, Start-up Ecosystem, Innovation Governance*

Role of the Traditional Knowledge Digital Library (TKDL) in India in the context of medicinal practices.

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Abstract

Traditional Knowledge Digital Library (TKDL) is an initiative of the government to preserve the Indian Traditional Knowledge from any kind of exploitation. In the context of rich traditional medicinal practices of India, every indigenous community have the right to protect their resources. The purpose of this study is to assess the effective role of TKDL in safeguarding traditional medicinal practices from bio-piracy which is of serious concern in the state now and how judiciary has safeguarded the traditional knowledge of medicine will be explored through case studies and whether any progressive implementation of law is required in this context. The methodology employed for this research is doctrinal based on international laws and agreements, national laws, case studies, articles and recent data. The paper highlights on the key findings of legal protection of traditional medicinal practices of the country through TKDL by emphasizing on Patent Act 1970, Biological Biodiversity Act 2002, Geographical Indications Act 1999, the Protection of Plant Varieties and Farmers' Rights Act, 2001. The conclusions that can be drawn from the study are in developing commercialized market, the trend of bio-piracy of traditional knowledge has to be stopped and the rights of local communities over their generic resources have to be protected. This paper will suggest the effective legal framework of TKDL mechanism for preserving cultural heritage of the nation by challenging various patent applications in the field of medicinal practices.

Keywords: *Indian Traditional Knowledge, Bio-piracy, Medicine, Patent and Indigenous.*

AI-generated Works: Authorship, Ownership & Revenue Models

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Abstract

The rapid advancement of artificial intelligence has transformed the landscape of creative and intellectual production, giving rise to AI-generated works in fields such as literature, music, visual arts, software development, and legal drafting. This technological shift challenges traditional legal doctrines of authorship, ownership, and economic rights, which have historically been centered on human creativity. The question of whether an artificial intelligence system can be recognized as an author, or whether such status should vest in the developer, user, or deploying entity, remains legally unresolved across jurisdictions.

This research paper critically examines the legal status of AI-generated works with a specific focus on authorship attribution, ownership of intellectual property rights, and emerging revenue models. It analyzes existing copyright frameworks under international conventions and national laws, highlighting their inadequacy in addressing non-human creative agents. The paper further explores competing theoretical approaches, including human-centric authorship, machine-assisted creation, and AI as an autonomous creator, while assessing their legal and ethical implications.

In addition, the study evaluates contemporary revenue and monetization models adopted by AI-driven platforms, such as licensing, subscription-based access, and collaborative profit-sharing mechanisms. Through doctrinal analysis and comparative perspectives, the paper argues for a balanced regulatory approach that safeguards human innovation while accommodating technological progress. The research concludes by emphasizing the urgent need for adaptive legal frameworks that can ensure accountability, fair ownership allocation, and sustainable economic incentives in the age of AI-generated creativity.

Keywords: *Artificial Intelligence, AI-Generated Works, Authorship, Intellectual Property Rights, Revenue Models*

Voices of Heritage: Community Participation in the Preservation of Oral Traditions

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Abstract

Oral traditions represent an invaluable form of cultural heritage, serving as the repository of collective memory, values, knowledge systems, language, and identity for communities worldwide. Yet, in the face of globalization, urbanization, and technological transformation, many oral traditions are endangered. This paper explores the fundamental role of community participation in preserving oral traditions. Drawing on multi-disciplinary frameworks from anthropology, cultural studies, and heritage management, it investigates how communities have historically transmitted oral culture, the challenges threatening these practices, and innovative strategies that empower local voices in safeguarding intangible heritage. It further examines case studies highlighting effective models of community engagement, considers the implications of digital technology, and proposes recommendations for culturally inclusive preservation efforts.

Keywords: *Oral Traditions, Intangible Cultural Heritage, Community Participation, Cultural Preservation, Indigenous Knowledge*

Understanding the Emerging Legal Challenges to Intellectual Property Rights in the Age of AI

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Abstract

The traditional foundations of intellectual property rights (IPR) are being reshaped by the rapid integration of artificial intelligence (AI) into creative, commercial, and industrial processes. This paper examines the emerging legal challenges posed by AI technologies to existing IPR frameworks, which were originally designed around human authorship and inventorship. As AI systems increasingly generate literary works, artworks, software code, and technical inventions with minimal human intervention, fundamental questions arise regarding ownership, originality, and accountability. Current copyright and patent laws struggle to determine whether AI-generated outputs qualify for protection, and if so, who should be recognized as the rightful rights holder viz the developer, the user, or another stakeholder.

The study further explores issues related to infringement and liability, particularly where AI systems are trained on vast datasets that may include copyrighted material. The opacity of machine learning models complicates the identification of unauthorized use and challenges traditional standards of proof in infringement claims. Additionally, the global and cross-border nature of AI development highlights inconsistencies among national legal regimes, creating uncertainty for innovators and rights holders operating in international markets.

By analysing recent legal developments, policy debates, and judicial approaches across jurisdictions, this paper highlights the growing gap between technological advancement and legal regulation. It argues that rigid application of existing IPR laws may either stifle innovation or inadequately protect legitimate rights. The paper concludes by emphasizing the need for adaptive legal reforms that balance technological progress with the protection of creative and economic interests. Such reforms may include clarifying the role of human involvement, redefining authorship standards, and developing AI-specific regulatory guidelines. Understanding these evolving challenges is essential for policymakers, legal practitioners, and innovators seeking to navigate the complex intersection of artificial intelligence and intellectual property law in the digital age.

Keywords: *Artificial Intelligence (AI), Intellectual Property Rights (IPR), Copyright Law, Patent Law, Legal Regulation, Authorship, Ownership*

Integrating Indian Knowledge Systems (IKS) with Modern Intellectual Property Rights: Safeguarding Traditional Knowledge, Preventing Bio-Piracy, and Enabling Innovation-Driven Start-ups for Atmanirbhar Bharat

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Abstract

Indian Knowledge examines the interface between IKS and intellectual property law, with particular Systems (IKS) constitute a rich repository of indigenous innovation developed through collective and inter-generational practices. However, the global intellectual property regime, rooted in individual ownership and novelty, has historically failed to recognize and protect traditional knowledge, resulting in instances of bio-piracy and inequitable commercialization. This chapter critically focus on the Traditional Knowledge Digital Library (TKDL), landmark bio-piracy cases involving turmeric, neem, and basmati rice, and the role of community rights in safeguarding indigenous knowledge. Through doctrinal and comparative analysis, the study evaluates international models from Brazil, Peru, and China, and explores how community-centric legal frameworks can enable ethical innovation. The chapter argues that integrating IKS into India's start-up and innovation ecosystem is essential to realizing the vision of Atmanirbhar Bharat, as it promotes self-reliance, inclusive entrepreneurship, and sustainable development while preserving cultural integrity.

Keywords: *Indian Knowledge Systems; Traditional Knowledge; Intellectual Property Rights; Bio-piracy; TKDL; Community Rights; Start-ups; Atmanirbhar Bharat; Indigenous Innovation; Sui Generis Protection.*

Gender-Inclusive IP Policies & Start-Up Ecosystems

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Abstract

Gender-inclusive intellectual property (IP) regimes and startup ecosystems have emerged as critical legal and policy mechanisms for strengthening innovation capacity, advancing substantive equality, and securing sustainable economic development. While women's participation in innovation is rising, a significant gender gap remains, with only about 16% of patent applications under WIPO's Patent Cooperation Treaty listing women as inventors. This imbalance and structural inequalities is most evident in patenting activity, where women constitute only a marginal proportion of inventors under the Patent Cooperation Treaty framework, revealing the persistent gendered nature of ostensibly neutral IP systems.

This article undertakes a normative and comparative legal analysis of gender-responsive IP policies and inclusive startup support mechanisms in the contemporary innovation governance. Globally, the World Intellectual Property Organization's IP and Gender Action Plan represent a shift towards mainstreaming gender considerations in IP norm-setting, administration, and evidence-based policymaking. At the domestic level, with particular emphasis on India, the study examines targeted legal measures including differential fee structures for women and startups, expedited patent examination procedures, and the institutionalization of sex-disaggregated IP data as tools for dismantling procedural and economic barriers to participation.

The article further studies the existing IP frameworks, highlighting the exclusionary impact gender-diverse innovators and for inclusive doctrinal and administrative reform. It evaluates gender-inclusive startup ecosystems characterized by earmarked public funding, state-supported incubation, mentorship networks, and capacity-building initiatives, demonstrating how such ecosystems function as essential complements to formal IP rights by enabling effective commercialization and market access.

Despite these advances, persistent challenges remain, including the STEM "leaky pipeline," dif-

ferential patent valuation outcomes, and unequal economic returns from protected innovation. The article studies that bridging the IP gender gap is not solely a matter of distributive justice but an economic imperative, as inclusive innovation has the potential to significantly enhance national productivity and long-term growth. It concludes that enforceable, gender-sensitive IP regimes integrated with inclusive entrepreneurial ecosystems are indispensable to achieving constitutional equality, innovation efficiency, and sustainable economic resilience and sustainable innovation ecosystem

Keywords: *Gender-Inclusive IP; Innovation Governance; Startup Ecosystems; Economic Equity, Sustainable Development*

The Legal Architecture of Startup India: Supporting Aatmanirbhar Bharat through Regulatory Reform

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Abstract

India's startup revolution has emerged as one of the defining forces of its economic transformation in the 21st century. The launch of the Startup India initiative in 2016 marked a turning point in the nation's approach to entrepreneurship and innovation. It aimed to simplify regulatory processes, promote ease of doing business, and foster a culture of innovation aligned with the vision of Aatmanirbhar Bharat—a self-reliant India. This article explores the legal and regulatory architecture that underpins the Startup India mission, highlighting how effective governance frameworks and policy reforms have contributed to building a conducive environment for startups. It examines the evolution of key laws related to company registration, taxation, intellectual property, and insolvency that collectively support entrepreneurial growth. However, despite notable progress, challenges persist in areas such as policy consistency across states, bureaucratic delays, taxation complexity, and legal ambiguities in emerging sectors like fintech and digital technology. The article emphasizes the critical role of adaptive legal reforms and regulatory institutions in bridging these gaps. It argues that strengthening India's startup laws is not only vital for sustaining innovation but also for realizing the broader goal of economic self-reliance envisioned under Aatmanirbhar Bharat. By aligning legal frameworks with entrepreneurial needs, India can create a robust ecosystem that empowers startups to innovate, scale, and compete globally.

Keywords: *Startup India, Aatmanirbhar Bharat, legal framework, regulatory reform, entrepreneurship*

Policy and Regulatory Frameworks for Green Innovations and Their Protection under Patent Laws: A Comparative Analysis of India, Japan, and the European Union

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Abstract

Green technologies become central in achieving global sustainability goals, and consequently, governments take measures in setting the right policy and regulatory mechanisms that contribute to fostering green innovation without compromising intellectual property protection. This presented study examines how India, Japan, and the European Union (EU) have used patent laws and related policies to foster environmentally friendly innovation. In Japan, specialized procedures such as expedited examination for green technology patent applications markedly reduce review durations for inventions that promote energy efficiency and carbon reduction, thereby supporting early market entry and commercialization. India's patent system categorizes green innovations under the normal patent regime, virtually meaning that the procedural benefits are offered by way of expedited examination as per the current patent laws. India currently has no specific "green patent" schemes, and environmental technologies are patented under regular terms like any other sector. The EU leverages its standard patent system from the European Patent Convention and methodologies such as the Y02/Y04S tagging scheme to track climate-related patents, helping also wider innovation policies that fund sustainability research and generally encouraging new green inventions. International collaboration, such as the Patent Prosecution Highway and WIPO-coordinated programs, represents a global direction in which IP systems are being harmonized with climate goals. Despite having taken different paths, the three jurisdictions share concerns about patents as drivers of R&D in environmental technologies, but diversities in how to accelerate this process and combine policies and institutions illuminate developmental stages and strategic priorities. The results imply that customized incentives, strong policy coordination, and global factoring can improve the mechanism of patent systems to promote sustainable green innovations.

Keywords: *Green innovations, regulatory frameworks, IP policies, patent laws, sustainable development*

The Core IPR Question: Is AI an Autonomous Inventor or Merely an Advanced Tool

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Abstract

At the intersection of technological innovation and legal regulation, Artificial Intelligence (AI) poses transformative challenges to the global Intellectual Property Rights (IPR) framework. Both discriminative AI systems, which analyse and classify existing data, and generative AI systems, which autonomously create new content such as text, images, music, and code, increasingly replicate functions traditionally associated with human creativity and invention. While discriminative AI strengthens sectors like healthcare, finance, and security through pattern recognition, generative AI platforms such as ChatGPT and DALL·E raise complex legal questions concerning authorship, ownership, and infringement.

A central concern under copyright law relates to the use of vast datasets scraped from the internet for training generative AI models, often without explicit authorisation from rights holders. This has triggered extensive litigation worldwide, particularly in the United States and India, alleging unauthorised reproduction and use of copyrighted works. Patent law faces similar uncertainty, as demonstrated by cases such as DABUS, which challenge the requirement of human inventorship. Trademark law is also affected, with AI-generated logos and branding risking confusion, dilution, and counterfeit practices.

Although current IP regimes largely insist on human authorship and inventorship, some jurisdictions, including Ukraine, have adopted sui generis protections for AI-generated outputs, leading to a fragmented international legal landscape. This inconsistency complicates cross-border commercialisation and enforcement. The paper argues that if existing IP laws are interpreted purposively and adapted through policy guidance rather than radical overhaul, a balanced framework can be achieved—one that safeguards human creativity while enabling responsible AI-driven innovation.

Keywords: *Artificial Intelligence, Intellectual Property Rights, AI-Generated Works, Copyright Law, Legal Regulation*

Opportunities And Challenges of Startup Ecosystem in Gujarat: An Empirical Study

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Abstract

The startup ecosystem plays a crucial role in economic growth, innovation, and employment generation. Gujarat, one of India's most industrially developed states, has emerged as a significant hub for startups due to its entrepreneurial culture, supportive government policies, and robust infrastructure. However, despite these advantages, startups in Gujarat face several challenges that affect their sustainability and growth. This empirical study aims to analyse the opportunities and challenges of the startup ecosystem in Gujarat by examining policy support, access to finance, infrastructure, human capital, and market conditions. Primary data collected from startup founders and secondary data from reports and journals are used for analysis. This was aimed at changing and quickens the startup revolution in India. The findings reveal that while Gujarat offers a conducive environment for startup growth, issues such as funding constraints, regulatory complexities, and skill gaps remain significant challenges. This paper focuses on opportunities and challenges of startups in Gujarat, and to provide awareness of various schemes related to startups.

Keywords: *Startups, Innovation, Entrepreneurs, Economy, Youth.*

Intellectual Property Rights in the era of AI: Ownership and Innovation

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Abstract

The speedy development of Artificial Intelligence (AI) technologies has transformed the intellectual property (IP) landscape, raising fundamental questions about authorship, ownership and accountability. As AI-generated content, inventions and novelties continue to emerge, IP laws and policies are struggling to keep stride. This Paper provides an in-depth examination of the existing state of IP in the AI era, exploring the tasks and chances presented by these technologies. Key concerns include the ownership of AI-generated works, the patentability of AI inventions and the competence of current legal standards to address AI's independent competences. A nuanced approach is necessary to balance these competing interests and safeguard that IP rights are aligned with the ethical and legal implications of AI generated content and inventions.

Keywords: *Artificial intelligence, patent, copyright, intellectual property law*

The Role of Green Innovation in Strengthening National Prosperity And Fiscal Sustainability

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Abstract

Due to the increasing pace of environmental and economic disruption, it is important to navigate how green innovation can enhance the prosperity of the nation. The purpose of this study is to analyze and understand the contribution of sustainability-oriented strategies (especially those that improve research and development, energy efficiency, and innovation capacity) in affecting the performance of environmental goods exports and fiscal sustainability. The study has utilized multiple linear regression models to collect data from fourteen nations, inclusive of seven most sustainability-oriented economies and other seven that rely heavily on fossil fuels for financial growth. The result indicated that Research and Development expenditures and Green Trade Competitiveness have a strong nexus, while renewable energy consumption indicators have neutral to negative effects on the green trade. The data indicates that adjusted net savings can both be used as a robust indicator of both growth and competitiveness. Despite this, no significant associations were found between renewable energy indicators and fiscal sustainability, highlighting the inherent politics of transition and institutional barriers that accompany ecological change. The research showcases macroeconomic indicators of innovation and sustainability, as well as export performance, as contributors to the growing literature on green innovation. As a result, innovation strategies should be aligned with trade objectives and green innovation metrics should be improved, as well as institutional preparation for the transition should be supported.

Keywords: *Green Innovation, Fiscal Sustainability, National Prosperity, Ecology*

Significance of IPR

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Abstract

Intellectual property rights are those exclusive rights which are exclusively designed to grant legal protections to the creativity, innovations, artistic works, towards economic development in the modern knowledge-based economy. The Intellectual Property Rights (hereinafter IPR) provide protection to the intellectual creations.

This article articulates the significance of IPR in the form of trademark, copyright, patent, industrial designs etc, towards modern economic growth and research. Strong IPR regimes not only attracts domestic or foreign investment but contributes in technological advancement, industrial growth and trade.

Another primary significance of IPR lies in safeguarding the inventors and creators from commercial exploitation of their creativity from unauthorized use and imitation ensuring fair marketplace. These rights provide legal recognition and protection to intellectual efforts, encouraging individuals and organizations to invest time resources and skill innovations. It protects the cultural and creative sectors and preserves the rights of authors, artists, performers and ensures their recognition and provides financial rewards. IPR can be enforced under both civil and criminal proceedings patent and design infringements are exempted from the criminal proceedings.

The paper is designed to deal with basic of IPR such as the history, objective, types and its significance towards protection of innovation attracting investment globally. In the developing countries like India, IPR is instrumentally supporting the startups, small and medium enterprises (SME's), traditional business. Overall, IPR's are essential for promoting innovation, economic growth, cultural development, technological progress ensuring a fair global competition. It enhances national industries in global market by aligning domestic laws with international standard such as TRIPS agreement.

Keywords: *Intellectual Property Rights, Patent, TRIPS, Knowledge-based*

Digital Banking Frauds-Emerging Challenges in IPR and legal framework

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Abstract

The rapid growth of digital banking has transformed banking services by enhancing speed, accessibility, and efficiency. However, this revolutionary transformation from traditional banking to e banking has also led to a significant rise in banking frauds such as phishing, identity theft, data breaches, and unauthorized digital transactions. These frauds pose emerging threads to the Intellectual Property Rights (IPR) regime and the existing legal framework specially in protecting proprietary banking software, customer data, and digital innovations. The misuse of copyrighted software, trade secrets, and patented financial technologies further complicates enforcement and accountability. This paper examines the nature of digital banking frauds, analyzes the emerging IPR-related challenges, and evaluates the adequacy of the current legal framework in addressing such cyber-enabled financial crimes. It also highlights the need for stronger cyber laws, improved IPR enforcement mechanisms, and enhanced coordination between financial institutions and regulatory authorities to ensure secure and legally compliant digital banking systems.

Keywords: *Digital Banking Frauds, Cyber Crime, Intellectual Property Rights, Data Protection, Legal Framework, Financial Technology, Cyber Laws*

Traditional Healers and Mental Healthcare Law in India: Lessons from South Africa

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Abstract

Traditional healers continue to play an important role in mental healthcare, particularly in rural and indigenous communities where access to formal psychiatric services remains limited. Yet mental health laws tend to recognise care only when it conforms to biomedical and professional standards, leaving traditional healing practices outside the legal framework. This paper examines the uneasy position of traditional healers within mental healthcare law, using India as the primary focus and South Africa as a comparative reference point.

In India, traditional knowledge is protected through biodiversity, cultural, and intellectual property regimes, but traditional healing practitioners are absent from mental health legislation. As a result, mental healthcare practices that are widely relied upon operate in a legal grey area—neither formally recognised nor meaningfully regulated. This gap has consequences for access to care, patient safety, and the protection of dignity and autonomy.

The paper adopts a doctrinal and comparative approach. It analyses international human rights instruments, the Mental Healthcare Act, 2017, and related Indian laws, alongside South Africa's Traditional Health Practitioners Act, 2007. The comparison shows that while South Africa has created a statutory system for recognising and regulating traditional health practitioners, this framework cannot simply be transplanted into the Indian context, given differences in constitutional structure, health governance, and the diversity of healing traditions.

The paper argues that India does not require wholesale adoption of the South African model. Instead, a more limited and contextual form of legal recognition—focused on accountability, referral, and clear human rights safeguards—could bring traditional healers within the mental healthcare system without compromising patient rights or safety.

Keywords: *mental health, mental healthcare, traditional knowledge, traditional healers.*

Open Access or Ownership? Protecting Traditional Environmental Knowledge in Tribal Rajasthan

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Abstract

Traditional Environmental Knowledge (TEK) held by tribal communities represents a vital yet vulnerable repository of ecological wisdom developed through generations of lived interaction with nature. In Rajasthan, tribal groups such as the Bhil, Meena, Garasia, and Sahariya communities possess rich environmental knowledge relating to forest management, water conservation, medicinal plants, and climate adaptation. However, the increasing documentation, digitisation, and utilisation of such knowledge in the name of sustainability and innovation raise complex ethical and legal questions. Should traditional environmental knowledge remain open for collective benefit, or should it be subject to ownership-based legal protection? This paper examines the tension between open access and ownership through a humanities-driven lens grounded in legal pluralism and ethics. It argues that conventional intellectual property frameworks inadequately protect tribal environmental knowledge, often leading to cultural appropriation and loss of dignity. By analysing constitutional principles, environmental laws, and customary tribal practices, the paper proposes alternative models of protection based on stewardship, community consent, and ethical governance. The study concludes that safeguarding traditional environmental knowledge in tribal Rajasthan requires moving beyond proprietary paradigms towards inclusive, dignity-centred legal frameworks.

Keywords: *Traditional Environmental Knowledge, Tribal Communities, Legal Pluralism, Cultural Appropriation, Sustainable Governance*

Traditional Wisdom, Modern Patents: Integrating Indian Knowledge Systems into Sustainable IP Frameworks

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Abstract

India's innovation landscape is witnessing renewed emphasis on sustainability, indigenous knowledge, and self-reliance under the vision of Aatmanirbhar Bharat. At the same time, modern intellectual property regimes—particularly patent law—continue to be shaped largely by Western notions of exclusivity, individual ownership, and market-driven innovation. This paper examines the growing tension and possible convergence between Indian Knowledge Systems (IKS) and contemporary patent frameworks, with a specific focus on sustainable intellectual property governance.

Drawing upon traditional Indian concepts of stewardship, collective knowledge, and ethical responsibility towards nature, the paper argues that IKS offers valuable normative insights for re-imagining patent systems in the context of green innovation. References to classical Indian thought, including the idea of dharma and lokasangraha reflected in texts such as the Bhagavad Gita, are used not as religious doctrine but as philosophical foundations that emphasise balance between private rights and public welfare. The study critically analyses existing legal mechanisms in India, including the Biological Diversity Act, Traditional Knowledge Digital Library (TKDL), and patent law exclusions, to assess whether they adequately reflect these principles in practice.

Through doctrinal and policy analysis, the paper highlights the limitations of purely proprietary patent models when applied to traditional and environmentally sustainable knowledge. It proposes a more inclusive and context-sensitive IP framework that integrates IKS-based values with modern legal safeguards, ensuring innovation without eroding community rights or ecological balance. The paper concludes that integrating Indian Knowledge Systems into sustainable IP governance is not a rejection of modern patents, but a necessary evolution towards a more equitable, ethical, and environmentally conscious innovation ecosystem.

Keywords: *Dharma, Aatmanirbhar Bharat, Ecological balance, Traditional Knowledge Digital Library, Ethical*

Legal issues relating to start-ups in India: An analysis

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Abstract

In the era of globalization, start-ups are playing an important role in growth of business, innovative technologies as well as generating employment. With reference to India, 'Make in India' and 'Atmanirbhar Bharat' (Self Reliant India) are two important initiatives boosting the start up culture. Despite that, the start ups are strained in India due to different legal compliance. Some of the essential legal components are registration and licensing, employment and labour laws, intellectual property laws, fundraising and valuation, data protection laws amongst others.

The legal issues that arose in recent times are either due to lack of knowledge of the founders or intentionally evading the legal framework and even sometimes due to no clear ruling on legal framework. Some of the predominant recent legal issues are on patentability of Artificial Intelligence generated products, routing of funds and tax evasion , litigation involving heavy costs on trivial issues, equity and cofounder's agreement, false projections and fabricated operational metrics. These issues have affected the business growth of the start-ups as well as on occasion discouraging the youth to take initiatives.

In this paper, an attempt has been made to make a detailed study of the different legal issues on start-ups in India with the help of case laws with a few to understand the current legal frameworks on start-ups in India. Legal compliances which the start-ups shall not avoid are also discussed. A few suggestions are also made with a view to provide a better legal framework for the start-ups for its operation.

Keywords: *Globalisation, Start-ups, Artificial Intelligence, Tax evasion.*

Artificial intelligence in digital forensics: Intellectual Property and Evidentiary Challenges in The Indian criminal Justice System

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Abstract

The rapid integration of Artificial Intelligence (AI) into digital forensic investigations has significantly transformed the methods of collection, analysis, and interpretation of electronic evidence. AI-powered forensic tools are increasingly deployed for data mining, facial recognition, voice analysis, malware detection, and predictive analytics, thereby improving investigative efficiency and accuracy. However, the growing reliance on AI in digital forensics raises complex legal concerns, particularly in relation to Intellectual Property Rights (IPR), ownership of forensic technologies, accountability of AI-generated outputs, and the admissibility of such evidence in criminal trials.

This paper critically examines the intersection of AI-driven digital forensics and intellectual property law within the framework of the Indian criminal justice system. Using a doctrinal research methodology, the study analyses statutory provisions under the Indian Evidence Act, 1872 and the Bharatiya Nagarik Suraksha Sanhita, 2023, along with leading judicial precedents governing electronic evidence. The paper explores patentability of AI-based forensic tools, copyright issues in AI-generated forensic reports, and the impact of proprietary algorithms on transparency and fair trial rights.

It argues that the absence of a comprehensive regulatory framework governing AI-based forensic technologies and their intellectual property poses serious risks to evidentiary reliability and due process, particularly in serious and heinous crimes where digital evidence plays a decisive role. The paper concludes by proposing legal and policy reforms aimed at balancing technological innovation, intellectual property protection, and the constitutional guarantee of a fair trial in India.

Keywords: *Artificial Intelligence, Digital Forensics, Intellectual Property Rights, Digital Evidence, Criminal Justice System, India*

Celebrity Privacy and Reputation in The Age of Artificial Intelligence: A Study of Copyright and Personality Rights in India

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Abstract

The rapid advancement of artificial intelligence has transformed digital creativity while simultaneously exposing serious vulnerabilities in the protection of celebrity privacy and reputation. Technologies such as deepfakes, synthetic voice cloning and AI-generated imagery enable the creation and dissemination of highly realistic impersonations, often without consent, causing reputational harm, emotional distress and commercial misappropriation. In India, where digital platforms significantly shape public discourse and economic activity, existing legal frameworks struggle to respond effectively to these emerging risks.

The purpose of this study is to doctrinally examine the adequacy of Indian copyright law and related privacy and personality rights in safeguarding celebrity identity in the age of artificial intelligence. Adopting a doctrinal research methodology, the paper analyses the Copyright Act, 1957, the Information Technology Act, 2000, the Digital Personal Data Protection Act, 2023, and the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, together with relevant judicial precedents and international legal instruments. A comparative assessment of regulatory approaches in the United States and the European Union is also undertaken.

The study finds that while copyright law offers protection to original expressions, it remains largely inadequate in addressing the unauthorized replication of celebrity likeness, voice and persona generated through AI systems. The absence of a codified right of publicity, fragmented privacy protections and reactive platform liability frameworks leave celebrities vulnerable to impersonation, false endorsements and reputational dilution. The findings further reveal that algorithmic amplification and opaque content moderation mechanisms exacerbate the circulation of harmful synthetic media.

The paper concludes that India requires a harmonised and future-oriented legal framework integrating copyright, privacy and personality rights, supported by AI-specific regulatory safeguards and platform accountability measures. Such reforms are essential to preserve human dignity, creative authenticity and public trust in the digital ecosystem.

Keywords: *Celebrity Privacy, Artificial Intelligence, Deepfakes, Personality Rights, Copyright Law.*

An Interplay of Technological Innovation And Environment Protection

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Abstract

In recent years, concerns about climate change and environmental imbalances have drawn attention from all across the world. Deforestation, soil erosion, global warming, diminished ozone layer, and the deterioration of natural resources are some of the issues brought on by climate change. But in order to stop climate change, both wealthy and developing countries must make progress. One of the main causes of pollution and environmental deterioration is the growth of industry and technology. Green technology, also referred to as clean technology, sustainable technology, or environmental technology, integrates technology with the environment. Science and technology are brought together to reduce climate change and protect the environment. This research paper examines and understands the connection between the essential purpose of patent law, especially when it comes to environmental issues, and the importance and relevance of clean technology for ecological sustainability. Intellectual property and its function to promote environmental sustainability are compatible. India is one of the countries that is demonstrating rapid advancements in green technology worldwide. This theological study has attempted to emphasize how rapidly technological developments must be changed in regard to environmental sustainability in order to protect the environment.

Keywords: *Green Technology, Intellectual Property Rights, Environmental Sustainability.*

The IP Shield: Fortifying India's Legal Defense against Counterfeiting in the Era of the Bharatiya Nyay Sanhita

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Abstract

The global illegal trade in fake goods has grown from a minor business problem to a serious threat to the health of the public and the stability of the world economy. According to global data, the trade in fake goods is worth USD 467 billion a year as of the 2025 reporting cycle. This “shadow economy” is a big problem for India’s “Make in India” program and the rule of law.

This report, “The IP Shield,” gives a full picture of how law enforcement works today, including how criminal logistics have changed over time and how Indian law enforcement has had to change its strategies in response. This version is very important because it includes the specific legal tools that are available under the Bharatiya Nyaya Sanhita (BNS), 2023, the Trade Marks Act, 1999, and the Copyright Act, 1957. This makes it a full legal guide for fighting this problem.

Keywords: *Property Rights, Global, Act, BNS Section 111*

Copyright and the creative economy: Contemporary Challenges and Emerging paradigms

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Abstract

The creative economy has traditionally been based on copyright law, which provides legal frameworks that protect writers', artists', and producers' rights while rewarding innovation. Copyright guarantees the monetisation of creative labour by guaranteeing exclusive rights of reproduction, distribution, and adaptation. This helps to support industries including film, music, publishing, and digital media. However, established concepts of enforcement and protection have been up-ended by the digital era, creating previously unheard-of and complicated issues.

Despite the increased availability of legal channels, one urgent problem is digital piracy, which threatens streaming businesses' revenue sources. DRM and other rights management technologies make an effort to prevent infringement, but they frequently limit acceptable customer use and are still susceptible to manipulation. Similar to this, the proliferation of user-generated content on websites like YouTube and TikTok makes it harder to distinguish between infringement and fair use, which raises concerns about how copyright law should change to accommodate participatory cultures.

The inadequacy of contemporary copyright systems in safeguarding communal legacy is demonstrated by the misuse of folk arts and traditional knowledge, which extends beyond digital media. Indigenous communities frequently witness the unapproved commercialisation of their cultural manifestations, which has led to demands for international frameworks that acknowledge collective ownership. At the same time, while artists fight to retain artistic control in profit-driven enterprises, conflicts between moral rights—like attribution and integrity—and economic exploitation continue.

Lastly, the concept of authorship itself is called into question by the rise of AI-generated works. The necessity for new legal paradigms that preserve human agency while taking computer innovation into account is highlighted by discussions about ownership, originality, and income models.

In summary, copyright has to change to strike a balance between access and protection, individual authorship and collective history, and technical advancement and human ingenuity.

Keywords: *Copyright Law, Digital Media, Creative Economy, Traditional Knowledge, AI-Generated Works*

Strengthening Enforcement: The Pivotal Role of Police and Customs in Intellectual Property Protection in India

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Abstract

As India moves closer to its goal of becoming a \$5 trillion economy with the help of the “Make in India” and “Digital India” programs, it faces a serious and growing threat from the illegal trade in fake and pirated goods. This report gives a thorough, multi-faceted look at how Indian police and customs officials enforce laws against intellectual property (IP) crime. Based on a thorough look at the Indian legal system, especially the Trade-Related Aspects of Intellectual Property Rights (TRIPS) compliance, the Customs Act of 1962, the Intellectual Property Rights (Imported Goods) Enforcement Rules, 2007, and the newly put into effect Bharatiya Nyaya Sanhita (BNS), the study shows how IP enforcement is changing in the subcontinent. It shows how border interdiction has changed from being static to being dynamic and intelligence-led, with supply chain security and complicated criminal investigations aimed at transnational organised crime groups. A thorough empirical analysis is presented concerning the challenges presented by the digital economy, particularly the rapid growth of e-commerce and social commerce in India, which has significantly disrupted conventional risk management frameworks. The report goes into more detail about how advanced technologies like artificial intelligence and centralised IPR recordation portals can be used in enforcement workflows while still making trade easier. This document emphasises the vital need for strong cooperation between the Central Board of Indirect Taxes and Customs (CBIC), state police Economic Offences Wings (EOW), and the Cell for IPR Promotion and Management (CIPAM) by combining recent seizure data, case studies of judicial innovations like “Dynamic Injunctions” by the Delhi High Court, and an evaluation of differences in enforcement at the state level.

Keywords: *Intellectual Property Rights (IT, IPR), BNS, Action, India, Enforcement*

Navigating the Trilemma: Reconciling Genetic Sovereignty, Open Genomics, and Patent Rights in the Age of Digital Sequence Information (DSI)

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Abstract

The advent of Digital Sequence Information (DSI) the digital genomic data derived from biological resources has precipitated a profound crisis within the international legal frameworks designed to regulate biodiversity and innovation. This research article confronts the core trilemma at the heart of this crisis i.e. the apparent incompatibility between the principle of genetic sovereignty (enshrined in the Nagoya Protocol under Access and Benefit-Sharing, or ABS), the ethos of open genomics that fuels scientific progress through data-sharing, and the privatizing incentive of patent rights. The central idea is that the prevailing legal architecture, predicated on the physical transfer of biological samples, has been rendered obsolete by DSI, creating regulatory lacunae that simultaneously enable new forms of “digital biopiracy”. This paper employs a critical, multi-method analysis. It first deconstructs the normative conflict, examining how DSI circumvents the materiality requirement of the Nagoya Protocol, thereby depriving source states of ABS claims while allowing downstream patenting. It then evaluates emergent governance proposals, from multilateral benefit-sharing funds to novel data-tracking technologies and tiered data-access models. The analysis concludes that a recalibration, not an abandonment, of existing norms is essential. The research argues for a new, functional governance model that can strategically reconcile these competing imperatives. The resolution, therefore, necessitates a framework that eschews the limiting physical/virtual dichotomy in favour of a functional approach. This approach must be calibrated to sustain open science, accommodate patented innovation, and enforce equitable benefit sharing, thus reconciling the trilemma’s constituent tensions and steering the genomic age toward greater justice and productivity.

Keywords: *Access and Benefit-Sharing, Biopiracy, Biodiversity, Genetic Sovereignty, Patent*

A Study on Patent Rights in Defence Technologies with Special Reference to Balancing National Security in India

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Abstract

Defence system of any nation balance national security by observing strict rules and regulations, secrecy, integrity so while granting permission for Patent Rights several restrictions are compulsory needs to observe in Defence Technologies. Patent rights in defence technologies needs concern in digital era. This paper seeks to address importance of Patent Rights and suggest a way for careful management of IP in Defence Technologies in India.

Keywords: *Security, Defence technologies, Patent Rights, IP, Balancing*

Comparative Analysis of Global AI-IP Regulations And Accountability Models

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Abstract

The rapid adoption of artificial intelligence (AI) in creative, innovative, and intellectual property enforcement processes presents significant challenges for existing intellectual property rights (IPR) frameworks. Traditional IP laws, rooted in human authorship and inventorship, are often insufficient to address issues of ownership, infringement, transparency, and liability arising from AI-generated outputs and automated decision-making. This study conducts a comparative analysis of global AI-IP regulations, focusing on accountability models across jurisdictions.

A doctrinal and comparative methodology is employed, examining statutes, regulatory frameworks, policy documents, and judicial developments in the United States, European Union, China, Japan, and India. Ethical principles such as transparency, human oversight, and responsibility are applied as criteria to evaluate accountability mechanisms.

The study finds no uniform global approach. The European Union emphasizes human-centric oversight and transparency, Japan favours innovation-friendly data use exceptions, the United States relies heavily on judicial interpretation, and China follows a flexible yet state-regulated model. Across jurisdictions, accountability increasingly targets AI developers and deploying entities rather than end-users.

The study concludes that regulatory fragmentation creates uncertainty for creators, AI companies, and policymakers. It advocates harmonized frameworks that embed ethical principles in IP law, enhance transparency in AI deployment, and protect human creativity while promoting responsible AI innovation.

Keywords: *Artificial Intelligence; Intellectual Property Rights; Accountability; Global Regulation; AI Ethics*

Artificial intelligence and new challenges in legal provisions

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Abstract

We can see Artificial intelligence as the most powerful and influential technology of today's era, from the ordinary life of people to the most complex situations. This technology is interfering in every field from the ordinary life of humans, be it political, administrative, economic, judicial, entertainment, science and mental, it is interfering in every field and its intervention is being seen in a very deep way. Today we are experiencing a situation like our Sanskrit proverb "Atra Tatra Sarvatra" in our lives, we are seeing its impact on our daily lives as if there is someone alert with us for 24 hours. Today's research paper is to analyze the challenges of law enforcement against the use of Artificial intelligence. Considering the current situation before the law, if we consider it, there are many shortcomings in the implementation of the law in the legal framework. The changes we bring in the law and try to resolve these shortcomings, AI moves forward faster and makes a big leap forward. Thus, there is a need to have a balanced legal framework against (AI) Artificial intelligence and implement it very quickly the relationship between AI Artificial intelligence and law enforcement has always been very dynamic. The Government of India has given suggestions for amendments to the 2021 rules of the Ministry of Electronics and Information Technology in November 2025 for new rules to prevent the widespread use of Artificial intelligence and deep fake technology.

Keywords: *Cybercrime, Digital Security, IT Act, 2000, UPI Fraud, Data Privacy, Deepfakes, Social Media Crimes, Human Rights, Judicial Approach, Digital Governance*

Electric Vehicles as Green Innovation: A Study of Consumer Perceptions and Adoption in Selected Cities of Gujarat

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Abstract

Electric vehicles (EVs) have emerged as a key green innovation in response to growing concerns over climate change, environmental degradation, and sustainable urban mobility. The transition from conventional internal combustion engine vehicles to electric mobility plays a crucial role in reducing carbon emissions and promoting sustainable development, particularly in developing economies like India. This study examines consumer perceptions and adoption of electric vehicles in selected cities of Gujarat, with a focus on EVs as climate-smart and environmentally sustainable innovations.

The research adopts a descriptive and analytical approach using primary data collected through a structured questionnaire from urban consumers. Key factors influencing EV adoption—such as environmental awareness, cost considerations, government incentives, charging infrastructure, technological trust, and social influence are analysed to understand consumer readiness toward electric mobility. The study also explores perceived barriers, including high initial costs, range anxiety, and inadequate charging facilities, which continue to affect adoption decisions.

Findings indicate a growing positive attitude toward electric vehicles as eco-friendly and sustainable transportation solutions; however, adoption remains moderate due to infrastructural and economic constraints. The study highlights the need for supportive policy frameworks, enhanced public awareness, and innovation-friendly ecosystems to accelerate EV diffusion. By positioning electric vehicles within the broader discourse of green innovation, this research contributes to understanding how consumer behaviour can influence the success of sustainable technologies in the Global South. The findings offer valuable insights for policymakers, industry stakeholders, and researchers aiming to promote green mobility and sustainable innovation strategies.

Keywords: *EV Diffusion, Environmental Degradation, Consumer Perceptions, Green Innovation, Sustainable Urban Mobility*

Revisiting Intellectual Property Theories in the Age of Artificial Intelligence

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Abstract

IP law, by contrast, has long been built on the image and assumption of inventiveness and creativity as being an outgrowth of dynamic human (individual) mind, effort and character. Classical theories of intellectual property, like labour theory, utilitarian theory, personality theory and ethics-based reward theory, have justifications for rewarding exclusive rights as they connect creative output to human effort and justice. The phenomenon of Artificial Intelligence as a machine capable of independently producing literary, artistic and inventive creations has invalidated these basic assumptions. This paper questions whether the age-old Intellectual Property theories hold good in the era of Artificial Intelligence when it comes to India's legal regimes.

Drawing within the doctrinal research method, this work examines traditional Intellectual Property theories and judges whether they are applicable to AI-generated works. It also analyses Indian Law jurisprudence with respect to authorship and ownership under the Copyright Act, 1957 and Patents Act, 1970, respectively, bringing out that there is no express recognition of AI as an author or inventor in any statute law. The judicial focus on human creativity and originality complicates the status of works produced by AI.

The paper contends that, although the prevailing Indian Intellectual Property system is still based on the organic author and inventor, Artificial Intelligence casts profound theoretical and practical insufficiency. Rather than a legislative overhaul, the paper argues for a re-framing of IP theories that can account for hybrid modes of creation in which human agency, intention and obligation/ accountability have been embraced. By replacing attention to the identity of the creator with an emphasis on human agency in using AI, the law can grow from within to grapple with technical realities in ways that continue to satisfy its primary goals: innovation, fairness and public interest.

Keywords: *Artificial Intelligence; Intellectual Property Theory; Authorship and Ownership; Indian Legislation; Technological Innovation*

IPR Techniques in Indian Knowledge System

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Abstract

Intellectual Property Rights (IPR) regimes are intended to safeguard innovation and creativity, but many traditional knowledge systems are based on collective ownership and intergenerational transfer. This research paper investigates Intellectual Property Rights (IPR) approaches in the context of Indian Knowledge Systems (IKS), using classical texts, traditional practices, and contemporary legal trends. It discusses how traditional knowledge systems in India, which are embedded in various areas such as medicine, agriculture, metallurgy, arts, and spirituality, have been sustained over the centuries through community-based ownership, ethics, and generational transfer. The paper discusses the interaction between these traditional knowledge protection systems and contemporary IPR regimes such as patents, copyrights, geographical indications, and traditional knowledge digital libraries. It discusses issues such as biopiracy, misappropriation, and the lack of recognition for collective knowledge owners. This paper proposes a harmonious approach that combines conventional IPR instruments with sui generis systems that are based on IKS principles of ownership, benefit-sharing, and cultural continuity. The paper concludes that modern IPR regimes can be made compatible with indigenous knowledge ethics to ensure the protection and equitable use of India's traditional knowledge resources in a globalized knowledge economy.

Keywords: *Indian Knowledge Systems (IKS), Traditional Knowledge Protection, Intellectual Property Rights (IPR), Sui Generis Legal Frameworks, Benefit Sharing and Cultural Continuity*

Inclusive R&D Support for Innovation-led Viksit Bharat Vision

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Abstract

The innovation landscape of India has shown deep revolution through structural economic shift, rapid digitalization, demographic advantages, and an increasingly strategic role of the state in steering research, development, and innovation (RDI). Innovation will have a profound role in making India a developed country by 2047, as it will be a central driver of productivity, competitiveness, strategic autonomy, and inclusive development. Intellectual Property Rights (IPR) play a critical enabling role in achieving these goals by transforming publicly funded research into tangible socio-economic outcomes. The annual reports of IP India reveal that several private academic universities consistently rank among the top patent filers in the country. In fact, the data clearly indicate that private academic institutions are filing a higher number of patents than many government-recognised institutions such as the Indian Institutes of Technology (IITs), National Institutes of Technology (NITs), and CSIR laboratories. Notably, Lovely Professional University alone has filed more patents than the collective filings of all IITs in certain reporting years. Private universities, despite demonstrating high levels of patenting activity, continue to receive comparatively limited access to competitive public research funding. This funding constraint can significantly restrict their capacity to invest in advanced research infrastructure, attract and retain high-quality researchers, and undertake long-term, interdisciplinary, or mission-oriented projects. As a result, much of the IP generated in these institutions tends to remain at an early or incremental stage, with limited validation, scaling, or industry engagement, ultimately affecting the quality of research outputs and the rate of successful technology commercialization. If the current trend continues, India risks a “two-tier” innovation system where private universities produce the volume of IP, while public universities hold the monopoly on quality and global recognition. For India

to reach its Viksit Bharat 2047 goals, funding agencies like the Anusandhan National Research Foundation (ANRF) must bridge this gap by creating “private-public parity” in grant eligibility.

Keywords: *Intellectual Property Rights, patents, technology transfer, innovations*

How Skill, R&D And IP Triad Can Secure India's Innovation Future

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Abstract

Innovation is the quiet force that transforms societies. It begins as a simple idea in a curious mind, grows through experimentation and learning, and finally becomes a product, service, or process that improves lives. For a country like India, with its vast population, youthful energy, and developmental aspirations, innovation is not a luxury, it is a necessity. Strengthening India's innovation ecosystem is therefore essential for economic growth, strategic autonomy, and inclusive development.

Keywords: *Innovation, Intellectual Property, Research & Development, Skill Development, India's Innovation Ecosystem*

Copyright Ownership and Right to Royalty for Underlying Works in India: Conundrum in Law and Judicial Approaches

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Abstract

The protection of intellectual property rights in musical works is essential in safeguarding the creative and economic interests of musicians, composers, lyricists, and singers in India. Rapid digitisation, remixing, and adaptation of songs, unauthorised reproduction, distribution, and public performance, streaming platforms, and complex chains of licensing have intensified copyright infringement in the Indian music industry and exposed structural asymmetries between authors and producers. This paper critically examines Indian copyright law relating to ownership of copyright in underlying works, and the entitlement to royalties when those

works are used in derivative forms. While the Indian Copyright Act, 1957, principally vests first ownership with the author, practical complexities arise where underlying works are integrated into larger works and commercially exploited by producers or broadcasters. The 2012 amendment introduced statutory safeguards to protect the unwaivable right of authors of underlying works to receive royalties. However, inconsistencies in judicial interpretation—particularly between judgements of various High Courts, and Supreme Court precedents—have created doctrinal uncertainty. The paper explores the statutory framework, legislative intent, contrasting judgments, and evolving jurisprudence, including landmark cases to highlight judicial trends and identify gaps in enforcement mechanisms and limitations imposed by lengthy legal procedures, limited awareness, and the technological complexities of digital infringement. Finally, it argues for a strong and efficient legal framework and a harmonized legal approach that recognizes both the economic and moral dimensions of copyright ownership and royalty entitlements in underlying works in India.

Keywords: *copyright ownership, royalty, underlying works, Indian Copyright Act 1957*

GI As a Catalyst for Bio Cultural Conservation– Assessing the Survival of the Muga Silkworm Amidst Climate Vulnerability and Its Legal Framework

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Abstract

The research paper aims to explore the intersection between IPR and ecological preservation. It investigates the efficacy of the Geographical Indications of Goods (Registration and Protection) Act, 1999, in safeguarding the endemic *Antheraea assamensis* (Muga silkworm). While the GI tag provides a legal monopoly over the “Muga” brand, it remains disconnected from the ecological realities of the Brahmaputra Valley. Although the GI law protects the name ‘Muga’ from brand infringement, it does not address biological vulnerability of silkworm weaving to consistent rise in temperature that threatens the very existence. The study adopts a comparative analysis of statutory provisions under the GI Act of 1999 and the TRIPS Agreement. The study reveals a ‘Protection Paradox’ while the GI tag legally prohibits the sale of counterfeit “Muga,” it offers no remedy for the loss of biological “origin” caused by global warming. Findings indicate that rise in average temperatures have led to a 15–20% decline in cocoon yield, threatening the “unique characteristics” required for GI maintenance. Furthermore, the lack of an integrated ecological-legal framework means that even if the brand is saved, the species—and the traditional knowledge associated with it—may go extinct. The study concludes that for Muga Silk, a GI tag is a necessary but insufficient condition for survival. There is an urgent need to amend GI internal regulations to include “Environmental Management Plans.” Legal protection must evolve from mere market exclusivity to a holistic approach of territorial stewardship to ensure that the “Golden Thread” remains a living heritage.

Keywords: *IPR, GI Act 1999, Muga Silk, TRIPS, global warming*

The Price of a Legacy: A Socio Legal Study of Digital Piracy and Fiduciary Breach in the Case of Zubeen Garg

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Abstract

This paper investigates the legal crisis surrounding the creative legacy of Assamese icon Zubeen Garg, focusing on allegations of “Managerial Piracy” and fiduciary breach by his manager, Sidharth Sharma. The study analyzes how the absence of transparent digital distribution and Sui Generis protections for folk-fusion artists allows intermediaries to exploit communal cultural assets. It explores the digital piracy of Garg’s final project, Roi Roi Binale, as a failure of current Copyright and IT laws to protect regional musical identities. The study adopts a qualitative case-study and doctrinal approach, analyzing the 2025 SIT charge sheet which implicated Sharma under the Bharatiya Nyaya Sanhita (BNS) for murder and criminal breach of trust. The research examines the alleged siphoning of Rs.1.10 crore in royalties and reviews legal proceedings involving the unauthorized digital distribution by third-party platforms. The research identifies a critical “Royalty Leak” where digital ownership is obscured by intermediaries. In the Zubeen Garg case, approximately 38,000 songs were contractually controlled by external labels, stripping the artist of “Digital Moral Rights.” The study finds that digital piracy in Assam is increasingly linked to premeditated financial crimes. The rapid online leak of Roi Roi Binale underscores that the Copyright Act, 1957, is insufficient against modern digital misappropriation.

The study concludes that the Garg-Sharma saga necessitates a legislative overhaul in Assam. It proposes a “Digital Signature for Folk Voices” and a state-regulated Artistic Trust to prevent royalty siphoning.

Keywords: *folk music, digital piracy, sui generis, digital ownership, Copyright Act, 1957.*

Analysing the legal pathway in Startups and IP commercialization

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Abstract

The emergence of startups plays a significance in the growth of the Indian economy. Startups reliant more on intangible assets and innovations being their differentiation strategy. Modern business models have become more innovative, ensuring a competitive advantage and thus facilitating sustainable growth. In this context, IPRs serve as a safeguarding mechanism and a commercial instrument for startups.

This study will investigate the application of patents, trademarks, copyrights, and trade secrets by startups in different phases of their life cycle to safeguard innovation, attract investment, and enhance enterprise value. It confirms that the safeguarding of IPs is directly linked to the startup's capacity to expand its business, establish strategic partnerships, and maintain a competitive advantage.

In furtherance, explores the commercialization of intellectual property in economic development, institutional capacity, and innovation-enabling infrastructure. It also throws light on the prominent options available for commercialization, including licensing, assignment, joint ventures, technology transfer, and research collaborations. Special focus is also provided to the regulatory and institutional challenges faced by startups, including high costs of compliance, limited access to IP consulting, and inefficient enforcement, especially in developing economies by comparison the best international observes in IP commercialization with the Indian legal system, the research work has been able to identify the prominent gaps and opportunities.

The paper contributes guidance to startups on how to effectively manage and leverage their IPRs. The paper concludes that IPRs are a prominent business and policy tool that directly affects the valuation, positioning, and long-term viability of startups. The research suggests a balanced and startup-friendly environment that combines innovation protection and monetizing the IPR with competition, accessibility, and sustainable development through simplified legal procedures, efficient enforcement, and policy support. Key Words: Intellectual Property Rights (IPR), Startups, Commercialization, Foster Innovation, Trademark, Copyright, Trade secret.

**Shaping of India's Ip Ecosystem from Industrial Design
To Innovation-Led Manufacturing: A Critical Analysis of
Cryogas Equipment Private Limited
vs. Inox India Limited & ORS**

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Abstract

In an innovation-driven economy, the protection of industrial design is essential for conserving creativity, facilitating commercialization, and strengthening innovation-led manufacturing. Design rights are frequently the most accessible type of intellectual property protection for MSMEs and start-ups looking to turn concepts into commercially viable industrial products. This paper critically evaluates the landmark court ruling in Cryogas Equipment Private Limited v. Inox India Limited & Ors., which explores the relationship between copyright and design protection through the application of Section 15(2) of the Copyright Act, 1957, read with the Designs Act, 2000.

The paper evaluates the impact on India's intellectual property ecosystem and, more generally, the objectives of innovation, start-up empowerment, and the Aatmanirbhar Bharat initiative of judicial interpretation of Section 15(2), which restricts copyright protection for designs capable of industrial application once reproduced beyond the statutory threshold. The research work has adhered to the doctrinal and analytical method of study, which includes a thorough examination of the statutory framework governing copyright and design protection, the courts' reasoning in the Cryogas ruling, and pertinent precedents regarding the overlap between protection for aesthetic features and functional features with industrial application. A policy evaluation of the function of design law in facilitating commercial dealings and encouraging homegrown production is added to this.

The findings demonstrate that while the courts' interpretive strategy in the Cryogas case strengthens the goal of Section 15(2) to prevent perpetual monopolies over industrial designs through copyright, it also raises the opposite question of whether incremental and utilitarian innovation is sufficiently protected. For startups and manufacturers, who heavily rely on design-based intellectual property to thwart imitation and gain a competitive edge, these two sets of interpretive criteria have enormous ramifications.

In order for India's IP regime to effectively support creativity, commercialization, and self-reliance in a way that permits a sound transition from ideas to sustainable industrial innovation, the paper concludes that a carefully balanced, innovation-sensitive interpretation of Section 15(2) and related design law provisions is essential.

Keywords: *Industrial Design Protection, Section 15(2) Copyright Act, Innovation-Led Manufacturing, Intellectual Property Ecosystem, Copyright Design Interface*

Innovation Governance Through Patent Law: Lessons From Israel For आत्मनिर्भर भारत

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Abstract

Intellectual property rights (IPR) play an important role in shaping how innovation happens in the modern world. By granting creators exclusive rights over their inventions, IPR systems encourage research, reward creativity, and support economic growth. Among the various forms of intellectual property, patents are especially significant because they offer inventors temporary monopolies over their inventions. This exclusivity is meant to strike a balance on one hand, motivating private investment in innovation, and on the other, ensuring that society ultimately benefits from new technologies. Patent law is not merely a system of legal protection; it also operates as a policy instrument. Through decisions about what can be patented, how long protection lasts, and how rights are enforced, governments influence the direction of technological development and address broader concerns such as public welfare and access to essential goods. The patent regimes of India and Israel provide clear examples of how national priorities, economic conditions, and technological capacities shape patent laws.

India's patent system, governed by the Patents Act of 1970, reflects the concerns of a developing economy where access and affordability are central policy goals. Historically, India has sought to balance innovation with social welfare, particularly in sensitive sectors like pharmaceuticals and agriculture. Although the law has been amended several times to meet international commitments under the TRIPS Agreement, it continues to retain public interest safeguards. Mechanisms such as compulsory licensing and limits on certain types of patentable subject matter are designed to prevent excessive monopolies and ensure that essential products remain affordable. This approach highlights India's emphasis on equity and public health alongside technological progress.

In contrast, Israel's patent regime developed within a highly advanced, technology-driven economy. The Israeli Patents Law of 1967 is closely aligned with the country's strong research culture, private-sector innovation, and entrepreneurial ecosystem. The legal framework prioritizes

efficiency, speedy patent processing, and the commercial use of inventions. Strong links between research institutions, startups, and industry are actively encouraged, allowing patents to serve as tools for technology transfer, venture creation, and attracting foreign investment. Administrative and enforcement mechanisms are designed to reduce delays and convert innovation quickly into economic value.

This article undertakes a comparative analysis of the Indian and Israeli patent systems across four key dimensions: patentable subject matter, administrative structures, transfer of patent rights, and enforcement mechanisms. By examining these aspects, the study aims to show how patent laws reflect broader policy choices and development goals. It also seeks to draw lessons from both systems on how developing economies can strengthen patent governance—promoting innovation and economic growth while continuing to protect public interest and social welfare.

Keywords: *Intellectual property, Patent, Public Interest, Innovation, Isreal*

Authorship, Ownership and Attribution of Copyright in AI-Generated Works: Comparative Perspectives and The Indian Legal Vacuum

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Abstract

The accelerated and transformative growth of generative artificial intelligence systems like ChatGPT, DALL-E, Perplexity, Midjourney, Gemini, Stable Diffusion, and other large language and image-generation models has challenged traditional copyright doctrines that are deeply rooted in human authorship and originality. The line between human-created and machine-generated creativity is becoming increasingly hazy, as these AI systems are able to produce literary, artistic, musical, and audiovisual works with little to no direct human intervention. In order to investigate how the various legal systems handle the need for human creativity in AI-assisted and AI-generated outputs, this research paper conducts a comparative analysis of a few international approaches, including the European Union, the United Kingdom, the United States, Japan, and China.

Although both the UK and Japan attribute authorship of computer-generated works to the person arranging their creation, the UK does so through explicit statutory recognition, while Japan relies on a flexible interpretation of existing copyright principles within its legislative framework.

As algorithms outpace legal imagination, the paper critically evaluates the Indian copyright regime, which currently lacks explicit statutory or judicial guidance on AI generated works. This absence has created a legal vacuum, resulting in significant uncertainty for creators, developers, and users of artificial intelligence technologies operating within India's rapidly expanding creative and digital economy. This gap creates significant legal and ethical challenges across various domains, including authorship attribution, ownership determination, liability allocation, and the protection of moral and economic rights. The paper argues that continued reliance on traditional copyright principles designed for human centric modes of creativity is insufficient to address the complexities introduced by autonomous and generative artificial intelligence systems. It therefore calls for a calibrated legal response that carefully balances the promotion of innovation with the protection of authors' rights and broader public interest considerations. The paper concludes by

emphasizing the need for doctrinal clarity and policy driven reform to ensure that India's copyright framework remains responsive, coherent, and relevant in the evolving age of artificial intelligence.

Keywords: *Artificial Intelligence, AI-Generated Works, Copyright, Authorship, Ownership of Copyright, Attribution and Moral Rights, Comparative, International Copyright Law, Indian Copyright Law, Creative Economy*

From Ideas to Innovation: An Analysis of The Role of IPR Reforms, Government Incentives and DPIIT Schemes in India's Start-up Ecosystem

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Abstract

As India marks a decade of its “Startup India” initiative in 2026, this transition from a traditional service-based economy to a high-tech innovation hub has been undeniably linked to the strength of its Intellectual Property (IP) related frameworks and various government initiatives to promote the same. This rapid growth over the past decade (roughly 2015 – 2025) was also driven by a shift towards a ‘knowledge-based economy’ with the introduction of the National IPR Policy in 2016 and extensive digitization of IP offices. Unlike traditional economy that mainly relied on land, labour and capital for survival, today’s knowledge economy places great importance on ideas, skills, data all of which forms a part of an intangible asset “Knowledge”. Intellectual Property (IP) plays a vital role in this upcoming knowledge economy where ideas and innovations are the driving force for growth and development and it actually acts as a legal mechanism that allows individuals and organisations to transform such ideas and creativity into protected economic assets.

Various studies or reports suggest that DPIIT schemes with IPR related benefits like Scheme for Facilitating Start-ups Intellectual Property Protection (SIPP) has revolutionized the filing landscape by offering up to 80% rebates on patent filings and 50% on trademarks. Beyond mere subsidies, the paper examines the “human” impact of empanelled IP facilitators and expedited examination processes, which have reduced patent grant timelines from several years to just a few months. This speed is vital for startups operating in “winner-takes-most” markets where first-mover advantage is everything.

This paper explores the critical/pivotal role of government incentives in driving IP creation and filing, focusing specifically on DPIIT schemes that have fundamentally lowered the “entry price”

of innovation for young entrepreneurs. By bridging the gap between securing a certificate and generating revenue, India can ensure that its intellectual wealth translates into global economic leadership.

Keywords: *Intellectual Property Rights, Government incentives, DPIIT schemes & policies, Start-up ecosystems, Innovation ecosystem.*

નવોત્થાન સશક્તિકરણ ભારત માટે માનસિક પીડિત સંભાળ—કાનૂની અભિગમ (Legal approach of mentally ill person care for empowering and innovation in India)

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Patan

Abstract

આ પેપર માનસિક સ્વાસ્થ્ય કાયદાના ઐતિહાસિક વિકાસ, અધિકાર-આધારિત અભિગમોના વૈચારિક માળખું અને કાનૂની અને આરોગ્યસંભાળ પ્રણાલીઓમાં વર્તમાન અંતરનું વિશ્લેષણ પ્રદાન કરે છે. વિકાસશીલ દેશોમાં માનસિક સ્વાસ્થ્ય-સંશોધન શોધમાં નિર્ણાયક અભિગમ-એવું સૂચવવામાં આવે છે કે માનસિક સ્વાસ્થ્ય સમસ્યાઓ હવે એટલી હદે પહોંચી ગઈ છે કે માનસિક સ્વાસ્થ્ય સમસ્યાઓથી પીડિતો સાથે વ્યવહાર કરવાનો એકમાત્ર રસ્તો વિકેન્દ્રીકરણ અને તેને સામાન્ય આરોગ્ય સંભાળ પ્રણાલીમાં એકીકૃત કરવાની પદ્ધતિઓ શોધવાનો છે. લોકોના માનવ અધિકારોના આદર દ્વારા સમાજના તમામ ક્ષેત્રોમાં સામાજિક પરિવર્તન અને વિકાસથી ઓછો નથી. લોકોની માનસિક અવગણના જો આ જ રીતે ચાલુ રહેશે તો ખૂબ જ ગંભીર અને જટિલ સમસ્યા ઉત્પન્ન થશે. તો તેને અવગણના ન કરી અને સ્વાસ્થ્યને પ્રાધાન્ય આપી એ ખૂબ જ જરૂરી છે ભારતમાં લાખો લોકોને અસર કરે છે. આ સંશોધન પેપર ભારતીય સંદર્ભમાં માનસિક રીતે બીમાર વ્યક્તિઓની જરૂરિયાતોને સંબોધવા માટે કાનૂની અને માનવતાવાદી અભિગમોની શોધ કરે છે.

Keywords: માનસિક સ્વાસ્થ્ય, માનવ અધિકાર, માનસિક આરોગ્યસંભાળ અધિનિયમ, કાનૂની વૈચારિક માળખા ની અસરકારતા સશક્તિકરણ નવોત્થાન ભારત માટે નવોત્થાન સશક્તિકરણ

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