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Editorial

It is with immense pride and a profound sense of accomplishment that we unveil the first volume of the Annual International Journal on Intellectual Property and Corporate Affairs (AIJIPCA). As we embark on this remarkable journey, we stand at the intersection of knowledge, innovation, and the ever-evolving domain of intellectual property. AIJIPCA represents the collective vision, dedication, and perseverance of individuals and institutions committed to the exploration and dissemination of knowledge in the fields of intellectual property and corporate affairs. It is our privilege to publish this inaugural volume, which is the embodiment of this collective effort.

The foundation of this journal lies in the papers selected from the two-day National Seminar jointly organized by Dr. Rohini Kanta Barua Law College, the Nowgong Law College, and technically supported by the Aequitas Victoria Foundation in April 2022. This seminar serves as a melting pot for brilliant legal minds, where ideas, insights, and academic rigor converge to forge new paths in intellectual property and corporate governance. In addition to the seminar papers, AIJIPCA proudly presents papers that secured top positions in the National Article Writing Competition on Intellectual Property and Business Laws organized by Dr. R.K.B. Law College in 2023. This competition not only encourages academic excellence but also nurtures a culture of critical thinking and scholarly writing among the legal community.

One of the distinguishing features of this inaugural volume is the inclusion of special lectures from two eminent experts in the field of Intellectual Property Rights. These lectures provide a deeper perspective and a broader understanding of the intricate world of intellectual property, as seen through the eyes of those who have dedicated their careers to this fascinating discipline. The contents of this volume are a testament to the diverse and ever-evolving landscape of intellectual property and corporate affairs. The selected papers and articles span a wide spectrum of topics, including patents, trademarks, copyrights, trade secrets, and corporate governance. This diversity reflects the complexity and relevance of intellectual property in the modern world.

As the field of intellectual property and corporate affairs continues to advance, we are proud to present AIJIPCA as a beacon of knowledge and scholarship. Our mission is to facilitate the exchange of ideas, to challenge existing paradigms, and to foster an environment where innovation is celebrated and protected. We extend our heartfelt gratitude to the authors, reviewers, and supporters who have been integral to the creation of this journal. Your expertise, insights, and dedication have been instrumental in shaping this intellectual endeavour.

In conclusion, the inaugural volume of AIJIPCA is a testament to the commitment of the global academic and legal community to the advancement of knowledge in the realm of intellectual property and corporate affairs. We anticipate that this journal will serve as an invaluable resource for scholars, practitioners, and policymakers alike. We eagerly anticipate the journeys that each subsequent volume will undertake, and we look forward to witnessing the continued growth and evolution of AIJIPCA. We thank you for your unwavering support in this endeavour, and we invite you to join us in the exciting voyage that AIJIPCA represents.

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Special Lecture

Lecture 1 on Emerging trends of Intellectual Property and its innovations in the Corporate Sector in the Contemporary world

Justice Biplab Kumar Sarmah (Scripted by Mrs. Ritimoni Sarmah)

Former Judge, Gauhati High Court

ABSTRACT
Justice Biplab Kumar Sarmah addressed the scholars gathered on the occasion of the 2-days National Seminar on the topic Emergence of Intellectual Property and Its Innovations in the Corporate Sector in the Contemporary Society as the Chief Guest of Honour. In his speech, he analyzed the evolution of Intellectual Property Rights and how its scope has expanded in the due course of time. He stated that although IP concerns emerged outside India but with the progress of time India also started emphasizing the legal mechanisms for protecting IPR. He also emphasized the importance of IP laws in the contemporary society.

KEYWORDS
Creativity; Emergence; Intellectual Property Rights; Legal Framework

Paper Code
SL01V12023

Justice Sarmah begins his inaugural speech by quoting an old saying from Indian philosophy that the whole world is one family and we are to respect each other through our work. He then explains the meaning of the term Intellectual Property, that it has come to be internationally recognized as covering patents, industrial designs, copyrights, trademarks, knowhow, and confidential information. The scope of IP is expanding very fast and attempts are being made by persons who create new creative ideas to seek protection under the umbrella of IPR. Justice Sarmah views that IP is altogether not a new concept. It was originated in Italy way back in 1700. IP has witnessed numerous modifications. After that different intellectual properties have come into existence as a result of IP maximalism and they are regarded as a matter of necessity in changing times.

He traces back the brief history of the laws & administrative procedures relating to IPR which have their roots in Europe. The trend of granting patents started in the 14th century. In comparison to other European countries, in some matters, England was technologically advanced & used to attract artisans from elsewhere on special terms. The first known copyrights appeared in Italy and most legal thinking in this area was done there. In India, patent acts were more than 150 years old. The inaugural one was the 1856 Act which was based on the British patent system and provided a patent term of 14 years followed by numerous Acts & amendments. Originally only patent trademarks and industrial designs were protected as industrial property. But, now the term IP has a much wider meaning. IPR ensures technology enhancements. It provides a mechanism for handling infringements, piracy, etc.

The impact of IPR regimes on developing and developed countries is a complex task. In the most recent times, India has been trying to establish itself as an intellectual property rights-friendly nation in the world. By defining its standards as per global international property norms, it has been reflected in some of the latest developments and innovations in laws related to IPR in India. One such effort can be seen in the Indian government's vision to set up fully computerized IP Offices based on the USA's patent & trademark model. The government has recently approved a patent

prosecution higher programme which will ease and expedite the process of patent examination in India. Thus India has also made considerable progress in the field of Intellectual Property.

It is obvious that the management of IP & IPR is a multidimensional task & calls for many different tasks and strategies that need to be aligned with national laws & international treaties & conventions. It is no longer driven purely by a national perspective. IP & its associated rights are seriously influenced by the market needs, market response, cost-involving IP into commercial ventures & so on. In other words trade & commerce considerations are important & beneficial in the management of IPR.

Different forms of IPR demand different treatment & link and planning strategies & engagement of people with different domains of knowledge. Each industry should evolve its own IP policies, management style, practices, strategies, etc, depending on its area.

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Lecture 2 on Emerging trends of Intellectual Property and its innovations in the Corporate Sector in the Contemporary world

Prof. (Dr.) M.K. Bhandari (Scripted by Mrs. Ritimoni Sarmah)

Sr. Professor of Law, Founder & Director GALTER

ABSTRACT
Prof. (Dr.) M.K. Bhandari addressed the scholars gathered on the occasion of the 2-days National Seminar on the topic of the Emergence of Intellectual Property and Its Innovations in the Corporate Sector in the Contemporary Society as the Inaugurator. He focused on diversified topics in relation to IPR. He particularly emphasized the challenges that have emerged both at the global and national levels in the protection of IPR due to the evolving technology and new culture. He also emphasized the conflicts between individual and public rights related to IPR. He finally concluded that more research-based culture is required to enhance the benefits of IPR since the country with advanced IPR regimes are more developed than countries lacking behind in the field of intellectual innovations and their effective protection.

KEYWORDS
Artificial Intelligence; Intellectual Property; Technological Development; Research-based Culture

Paper Code
SL02V12023

In his inaugural speech, Prof. (Dr.) M.K. Bhandari highlighted the major challenges in the contemporary world in terms of innovations and IPR.

He viewed that we live in an era that is highly influenced and dominated by digital technology. The new age is extremely disruptive and full of transformational technology such as artificial intelligence, cloud computing, metawares, etc. These technologies are the outcome of advanced and highly sophisticated innovations. He draws attention to a case where the Supreme Court of the U.S. remarked that everything under the sun is patentable. So patent, which is a key IP right is a very important yet controversial form of IPR that is given for technical and scientific innovations that have industrial applications. The IPR which is given for technical and scientific innovations, has industrial application. The IPR has been harmonized globally under the TRIPS Agreement and all countries that are members of the WTO have laid down minimum norms for different types of IPR like copyright, Trademark, Patent, GI, biological diversity, and traditional knowledge.

Prof. Bhandari also views the modern economy is a competitive economy and so those countries that have better technology, certainly have an edge over the other Countries. Corporate sectors are trying to incorporate advanced IP systems and it is reflected in the case of software and social media giants like IBM, ORACLE, Facebook, Twitter, etc. which have a number of IP rights such as patents to their credit. Back home in India, the scenario is positive. He recollects honorable PM Narendra Modi's mantra during the inauguration of the 7th Indian Science Congress- "Innovate, patent, produce and prosper". In this context, Prof. Bhandari viewed that the value of these IPs is in their exploitation either by means of production based on innovation or by giving licenses or transferring technology. In the last 2/3 years, which is inflicted by Covid-19, we have noticed that in the healthcare and pharmaceutical sector, particularly related to the development of COVID-19 vaccination, a lot of issues have emerged. Since IPR gives monopoly rights for a certain period, one can transfer it and earn a royalty or grant a license. So what is more important is not only to create IP but to exploit or make use of innovation-based

products that will give a competitive advantage. In India, greater emphasis is given to research and innovation according to the New Education Policy 2020 and even higher educational institutions are opting for patents and copyrights. So the need of the hour is to develop a culture and an industry-academia partnership so that we can prepare our young talents for globalization.

Prof. Bhandari also highlights some troublesome issues related to IPR like the clash between individual and public rights vs. corporate rights and emphasizes maintaining equilibrium between the two. Similarly, he calls for the need to keep vigilance on the infringement of IPR, especially in the case of trademarks, service marks, copyrights, etc. Again in traditional knowledge and biodiversity, India is one of the richest countries. But our biodiversity is pirated in the case of various traditional practices, medicinal plants, etc.

The speaker concludes by emphasizing the fact that IPR are a dire necessity of the present time. So we must inculcate the IP culture among the young generation. At the same time, the corporate sector in India should also give importance to IP audit and valuation of the company. We must be aware and ready to fight the challenges that abuse IPR. He concludes with a hope that IPR regimes will be updated and modernized and they will be in tune with the requirements of the Country.

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Research Papers

Font Fortification: Bridging The Gaps in India's Copyright Castle

Ms. Tejaswini Kaushal

Student, Dr. Ram Manohar Lohiya National Law University, Lucknow

ABSTRACT
The world of typography in Indian languages is currently blossoming as an artistic domain, offering endless prospects for Indic fonts, especially with the Latin-type market reaching its saturation point. While the popularity of Indian typography grows, its protection under copyright laws stays weak, exposing designers and corporations to the brunt of non-incentivized plagiarism of the designs. This article explores the copyrightability of typefaces in India, examining constitutional, statutory, and judicial perspectives. It compares international approaches and argues for increased protection, addressing economic impacts, incentive theories, and the IP-negative notion. It reevaluates the Aananda Expanded vs. Unknown case, counters flawed reasoning, and clarifies the eligibility of typefaces for protection. It emphasizes the need to align copyright law with evolving design practices and market demands, advocating for case-law precedents and legislative amendments. The article presents a comprehensive analysis of copyright issues surrounding fonts and typefaces, fostering a better understanding of their artistic significance and the potential for enhancing legal safeguards in India.

KEYWORDS
Copyright; Merger Doctrine; Incentive Doctrine; Typefaces; Fonts

Paper Code
RP01V12023

Introduction

Peter Bilak, the co-founder of Indian Type Foundry,[1] the first company in India dedicated to designing and distributing typefaces, thinks of typefaces as the "*voice of the text*."[2]Bilak's company has been instrumental in advancing Indic fonts, crafting *Devanagari* styles, and spearheading projects for *Kohinoor* and *Akhand* typefaces.[3] Typography in Indian languages has emerged recently as an artistic field, presenting boundless opportunities for Indic fonts as the Latin-type market becomes saturated.[4] Unfortunately, while Indian typography gains recognition akin to Latin typography, its protection under copyright laws remains weak.

Based on this conundrum, this article tackles two key questions: (i) whether typefaces are copyrightable, and (ii) if not, whether they should be. *Firstly*, this article lays down the terminological and copyright framework for typefaces in India under the constitutional, statutory, and judicial domains.

Secondly, the article analyses the scenario of copyright protection given to typefaces in foreign nations and under the international law framework.

Thirdly, the article argues how the current protection granted to typefaces as computer software is insufficient, supplements the incentive theory claim, and refutes the intellectual property (IP)-negative claim to establish a case to further inclusion of typefaces under copyrights as artistic works.

[1] 'Indian Type Foundry,' *available at:* <www.indianty pefoundry.com/about> accessed 8 August 2023.
[2] Sibal P, 'Indian languages were being neglected even in the world of fonts. Not anymore', Scroll.in, *available at:* <https://scroll.in/magazine/919214/even-in-the-world-of-fonts-few-people-cared-for-indian-languages-until-now> accessed 15 August 2023
[3] Indian Type Foundry (n 1).
[4] 'The New Wave of Indian Type' (*Google Design*) *available at:* <https://design.google/library/new-wave-indian-type-design> accessed 15 August 2023.

Establishing the Foundation for Typeface Protection in India

Distinguishing the Terminology: Tomato-Tomahto

A 'typeface' encompasses a collection of characters sharing design elements,[5] for instance, 'Garamond,' while a 'font' denotes a typeface variant, incorporating differences in size, weight, or style like bold or italics.[6] The terms are often used interchangeably in the modern *lingo*, and both terms are treated similarly even under copyright laws. Hence, the term "typefaces" hereinafter encompasses both typefaces and fonts for the context of this discussion.

Examining the Current Landscape in India

Constitutional Discourse

The right to impart and receive information is a facet of the freedom of speech and expression, as outlined in Article 19(1)(a) of the Indian Constitution.[7] Language plays a crucial role in this freedom[8]. Many scholars argue that copyrighting typefaces would extend to the language itself, contradicting Article 19(1)(a).[9] This view is supported by Article 21, which guarantees a "right to know."[10] In ***R.P. Limited v. Indian Express Newspapers***,[11] the Supreme Court has interpreted this right under Article 21 as essential for participatory democracy, surpassing the scope of Article 19(1)(a). It is claimed that granting copyrights on typefaces would restrict the dissemination of knowledge, thus infringing Article 21.

Statutory Discourse

A typeface comprises two crucial components: (i) the software or code-altering alphabet and symbol designs and (ii) the typeface's aesthetic design.[12] Copyright protection for typefaces involves analyzing Section 2(c) of the Copyright Act, 1957, which defines "artistic work" to include various creative forms.[13] There are arguments against this proposition:

To be eligible for copyright, typefaces must meet the criteria of 'original' artistic work under section 13(1)(a).[14] In the context of established languages recognized by the Constitution, claiming copyright in typefaces may be disputed.[15] Once a language is constitutionally recognized, it becomes public property, precluding private ownership claims.[16] Adding typefaces cannot convert it into private property, as it might lead to an indirect and colorable exercise of power.[17]

Before claiming copyright for typefaces, it is essential to determine the first owner as per Section 17 of the Act.[18] If copyright is based on another's work, claiming violation due to the use of common material is untenable.[19] In cas-

[5] 'Typeface' (*Merriam-Webster*) *available at:* <www.merriam-webster.com/dictionary/typeface> accessed 10 August 2023.
[6] 'Font' (*Merriam-Webster*) *available at:* <www.merriam-webster.com/dictionary/font> accessed 3 August 2023.
[7] The Constitution of India 1950, art 19(1)(a).
[8] Kaushal T, 'A Bird's Eye View of the Right to Freedom of Speech and Expression in India' (*Manupatra*, 16 February 2023) *available at:* <https://articles. manupatra.com/article-details/A-Bird-s-Eye-View-of-the-Right-to-Freedom-of-Speech-and-Expression-in-India> accessed 15 August 2023
[9] Evans EN, 'Fonts, Typefaces, and IP Protection: Getting to Just Right', [2014] 21 J. Intell. Prop. L. 307, *available at:* <https://digitalcommons.law.uga.edu/jipl/vol21/iss2/> accessed 13 August 2023.
[10] *R.P. Ltd. v. Proprietors Indian Express Newspapers, Bombay Pvt. Ltd.* 1989 AIR 190.
[11] Ibid.
[12] Fitz-Patrick M, 'The UX Designer's Guide to Typography' (*The Interaction Design Foundation*, 24 January 2022) *available at:* <www.interaction-design.org/literature/article/the-ux-designer-s-guide-to-typography> accessed 11 August 2023.
[13] Copyright Act 1957, s 2(c).
[14] Copyright Act 1957, s 13(1)(a).
[15] *Evans*(n 9).
[16] *Evans* (n 9).
[17] S. Sri Ganesh Prasad, How Colourful Can A Legislation Be?[2006] JLJRS 2(2) 456-462, *available at:* <https://jlrjs.com/wp-content/uploads/2023/03/51.-S.-Sri-Ganesh-Prasad.pdf>accessed 10 August 2023.
[18] Copyright Act 1957, s 17.
[19] Abrams B.H., 'Originality and Creativity in Copyright Law,'Law And Contemporary Problems 55(2), *available at:* <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4136&context=lcp>accessed 15 August 2023.

es where language is a public asset, exclusive rights cannot be claimed.[20]

Chancellor, Masters & Scholars of the University of Oxford v. Rameshwari Photocopy Services[21] underscored that copyright is a statutory right with limitations. Copyright for typefaces can only be claimed within the Act's stringent parameters and cannot be asserted otherwise.[22] Since typefaces fall outside the Act's scope, as illustrated above, they don't receive copyright protection.[23]

Even if typefaces are deemed eligible for copyright, their use can be governed by Section 52 and not be claimed as infringement.[24] Furthermore, post-copyright grant misuse may lead to the granting of compulsory licenses.[25]

Judicial Discourse

The legal perspective on copyright protection for typefaces has been cautious and constrained. The case of ***Aananda Expanded v. Unknown***[26] is a key precedent. The case involved copyright applications for typefaces, which the Copyright Office initially rejected. The Calcutta High Court later directed the Registrar to revaluate the matter. The applicant argued that typefaces required significant labor and skill, embodying originality and artistic craftsmanship. However, the Registrar's subsequent rejection was based on two main points:

The Registrar contended that "any other work of artistic craftsmanship" in Section 2(c)(iii) of the Copyright Act should be read with Sections 2(c)(i) and 2(c)(ii).[27] This interpretation excluded typefaces from copyright protection.

The Registrar argued that since the Copyright Act did not explicitly provide protection for typefaces and no international copyright conventions covered them, legislative intervention was necessary for their protection.

However, the legal system granted fonts a level of protection by classifying them as literary works and computer programs.[28] This made it possible for applicants to request copyrights for the typeface, which served as the visual representation of the font code. However, scholars raised concerns about this categorization, fearing that copyright protection for computer programs might indirectly extend to typefaces, circumventing implied prohibitions, and falling under the colourable exercise of power.[29]

Examining the International Framework

International conventions like the Berne Convention[30] and Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[31] do not address copyright protection for typefaces. However, member countries under the Berne Convention are free to determine how their laws regulate applied art, including typefaces, through legislative action. Furthermore, there exists a distinct international agreement called the 'Vienna Agreement on the Protection of Typefaces,'[32] but since only a few countries became members and even fewer ratified, it was never enforced.

[20] Ibid.
[21] (2016) 16 DRJ (SN) 678.
[22] Scaria, Arul George and George, Mathews, 'Copyright and Typefaces', [2017] SSRN, *available at:* <http://dx.doi.org/10.2139/ssrn.3083904> accessed 15 August 2023.
[23] Ibid.
[24] Copyright Act 1957, s 52. It provides non- infringement of copyright for fair dealing with a literary, dramatic, musical or artistic work not being a computer programme for specified purposes.
[25] 'Compulsory Licensing in India and changes brought to it by the TRIPS Agreement' (IP Helpdesk) *available at:* https://intellectual-propertyelpdesk.ec.europa.eu/news-events/news/compulsory-licensing-india-and-changes-brought-it-trips-agreement-2021-10-12_en accessed 05 August 2023.
[26] 2002 (24) PTC 427 CB.
[27] Copyright Act 1957, s 2(c).
[28] Copyright Act 1957, s 2(o).
[29] *Evans* (n 9).
[30] Berne Convention for the Protection of Literary and Artistic Works, 1887.
[31] Agreement on Trade-Related Aspects of Intellectual Property Rights, 1995.
[32] Vienna Agreement for the Protection of Type Faces and their International Deposit, 1973.

Foreign Nations

The copyright status of typefaces varies globally. In the American continent, the United States (US) has typefaces deemed to be unprotect able since 1976.[33] The Copyright Office's 1988 report reaffirmed this, citing legislative history that rejected copyright for typefaces.[34] Regulations such as 37 C.F.R. § 202.1(e)[35] and Circular 33[36] further establish that typefaces cannot be copyrighted, while Compendium practices emphasize this stance.[37]

The "separability test" is applied, where artistic elements separable from utilitarian aspects might gain protection. Certain scholars suggest applying the ***Brandir Int'l v. Cascade Pacific Lumber***[38] test instead, which balances protection for expressive elements while minimizing functional aspects in utilitarian objects. Other cases, like ***Carol Barnhardt v. Economy Cover Corporation,***[39] ***Hart v. Dan Chase Taxidermy Supply Co.***,[40] and ***Chosun International, Inc. v. Chrisha Creations Ltd.***,[41] however, have established that while typeface design involves artistic choices, its feature of 'legibility' is utilitarian, refuting its copyrightability claim under this test. Moreover, the "Nimmer-Poe" test relies on the marketability of aesthetics over its utility, as per which typefaces qualify for copyrights. However, the present jurisprudence does not support this theoretical speculation.[42]

While typefaces, as typefaces themselves, are not subject to copyright, alternative solutions involve protecting typefaces through design or software licenses. Software used to display typefaces can be copyrighted, as established by the US Copyright Office in 1992[43] and ***Adobe v. Southern Software*** in 1998.[44]It was more recently witnessed in ***Font Brothers Inc. v. Hasbro Inc.***,[45] where Hasbro was sued for using the "Generation B" font in its My Little Pony product without permission.

The Copyright Act[46] in Canada protects original artistic works and stipulates that they must show the author's competence beyond simple mechanical creation[47] and a fixed expression that excludes underlying ideas.[48] Serifs are not a protected element in the context of typefaces, although a unique typeface's distinctive serifs might be.[49] Typographers' ability to design distinctive typefaces is protected, but only as long as it pertains to their own works rather than generic alphanumeric letters.[50] Digital fonts in the modern day come

[33]' The Law on Fonts and Typefaces in Design and Marketing: Frequently Asked Questions (about commercial and non-commercial use) - crowdspring Blog' (*Crowdspring Blog*) *available at:* <www.crowdspring.com/blog/font-law-licensing/> accessed 16 August 2023.
[34]' Notice of Policy Decision on Copyrightability of Digitized Typefaces' (*United States Copyright Office*, 1888) *available at:* <https://cdn.loc.gov/copyright/history/mls/ML-393.pdf> accessed 14 August 2023.
[35]57 Fed.Reg. 6202, (*Federal Register*) *available at:* <https://archives.federalregister.gov/issue_slice/1992/2/21/6201-6203.pdf#page=2> accessed 14 August 2023. Section 202.1(e) reads as follows: "(e) Typeface as typeface."
[36]Circular 33, 'Works Not Protected by Copyright', (*United States Copyright Office*) *available at:* <https://www.copyright.gov/circs/circ33.pdf> accessed 12 August 2023.
[37] Compendium of U.S. Copyright Office Practices, § 906.4, 'Typeface, Typefont, Lettering, Calligraphy, and Typographic Ornamentation', (*United States Copyright Office*) *available at:* <https://www.copyright.gov/comp3/chap900/chap900-draft-3-15-19.pdf> accessed 15 August 2023.It provides: "As a general rule, typeface, typefont, lettering, calligraphy, and typographic ornamentation are not registrable."
[38]834 F.2d 1142 (2d Cir. 1987).
[39]594 F. Supp. 364 (1984).
[40]967 F. Supp. 70 (1997).
[41]214 F.3d 324 (2005).
[42]Shyamkrishna Balganesh, 'Stewarding the Common Law of Copyright', [2013] 60 J. Copyright Soc'y U.S.A. 103, *available at:* <https://scholarship.law.columbia.edu/faculty_scholarship/4043> accessed 13 August 2023.
[43]'Registrability of Computer Programs that Generate Typefaces' Announcement ML-443 (*United States Copyright Office*, Feb. 21, 1992), *available at:* <https://cdn.loc.gov/copyright/history/mls/ML-443.pdf> accessed 11 August 2023.
[44]1998 WL 104303.
[45]355 F. Supp. 3d 119.
[46] Copyright Act, RSC 1985, c C-42, s 5.
[47] *CCH Canadian Ltd v Law Society of Upper Canada*, 2004 SCC 13.
[48] *Robinson v Films Cinar inc* 2013 SCC 73.
[49] *Visa International Service Assn v Auto Visa Inc*, (1991) 41 CPR (3d) 77.
[50] *Pyrrha Design Inc v Plum and Posey Inc*2019 FC 129.

with copyright protection for the typeface design's source code.[51]

To advance the Vienna Agreement on the European continent, the *Schriftzeichengesetz* ("Typefaces Law") was passed in Germany in 1981.[52] Typefaces were given initial copyright protection starting ten years after their original publication and continuing for fifteen years.[53] Even more copyright protection is afforded to digitization into computer fonts than to computer programs.[54] The 1989 copyright law in the United Kingdom (UK) specifically mentions typeface design copyright, however, this protection only applies for 25 years after the initial publication and does not cover typographers' use.[55] In Ireland, copyright law encompasses typefaces and provides exceptions akin to fair use with a protection term of 15 years from initial publication.[56]

In Asian countries, the landscape of copyright protection for typefaces is diverse. In Russia, specific regulations are absent, resulting in all typefaces being considered copyrighted, enabling payments to be collected under current law.[57]Switzerland lacks dedicated typeface protection laws, although coverage through copyright and design law remains.[58] Israel has also recognized the copyright to Henri Friedlaender's *Hadassah* typeface and removed unauthorized digitizations from the market.[59]On the contrary, Japan does not include typefaces under copyright, arguing that their primary function is conveying information rather than aesthetic appeal.[60] South Korea's Supreme Court similarly ruled that typefaces lack copyright protection due to their informational role.[61] In most countries, copyright protection for typefaces is largely absent or treated akin to computer software. This parallels H.L.A Hart's concept of "core" (definite legal stance) and "penumbra" (ambiguous legal stance) law areas, suggesting that the copyrightability of typefaces lies in the latter category and is, most unfortunately, not a central concern for most nations.[62]

Constructing a Case for Typefaces' Protection as Artistic Rights

Advocating for Increased Protection

As typefaces and fonts gain prominence in the digital age, the question of extending their copyright protection as 'artistic rights' gains attraction. A case for this can be based on the following arguments.

Typeface Design Plagiarism Despite Protection as Computer Software

Digitization is a two-sided coin: on one side, it has led to an increase in typeface design and demand, while on the other; it has made plagiarism and file-sharing easier. Historically, designing a typeface was a minor part of type production, and skilled punch-cutters would require 800 work hours to create typefaces.[63]

[51] Copyright (n 47), s 30.03.
[52] Intellectual property protection of typefaces (*Rechtsschutz von Schriftzeichen*)- H.R. 2223 1981.
[53] Ibid.
[54] Intellectual (n 53).
[55] Copyright, Designs and Patents Act 1988 (c. 48), s 54.
[56] Copyright and Related Rights Act 2000, ss 84, 85.
[57] Font as an object of copyright (Шрифт как объект авторского права), *available at:* <http://juryev.ru/intellektualnaya-sobstvennost/182-shrif-objekt-avtorskogo-prava> accessed 10 August 2023.
[58] Martin Steiger, 'Switzerland' (*Steiger Legal*), 396-400, *available at:* <https://steigerlegal.ch/wp-content/ uploads/2014/06/intellectual-property-and-the-internet_2014_extract-switzerland.pdf> accessed 10 August 2023.
[59] Beletsky M, 'Hadassah Friedlaender' (*Typographica*) *available at:* <https://typographica.org/typeface-reviews/hadassah-friedlaender/> accessed 4 August 2023.
[60] Karjala Dennis S and Sugiyama Keiji, 'Fundamental Concepts in Japanese and American Copyright Law' [1988] The American Journal of Comparative Law, 36 (4): 613, 625–26, *available at:* <https://10.2307/840277> accessed 07 August 2023.
[61] Cancellation of copyright registration disposition SC 1996.8.23decided 94누5632.
[62] Mark John Bennett, 'Legal Positivism and the Rule of Law: the Hartian Response to Fuller's Challenge', [2013] University of Toronto, *available at:* <https://tspace.library.utoronto.ca/bitstream/1807/35776/1/Bennett_Mark_J_201306_SJD_thesis.pdf>accessed 05 August 2023.
[63] Charles Bigelow, 'Typeface features and legibility research', [2019] Vision Research 165, 162-172, *available at:* <https://doi.org/10.1016/j.visres.2019.05.003> accessed 09 August 2023.

The task of plagiarizing took as much time as making the original copy.[64] Today, it takes a mere click of a button.

While duplicating the digital file containing them could potentially infringe the copyright in the computer font as software, recreating them from scratch using font editing software, computer scans, and subsequent imports into font design software for manipulation or refinement are non-infringing methods to achieve a similar goal.[65]

This ease of copying eliminates the need for extensive skills or heavy machinery, making knockoffs widely accessible and avoiding licensing fees.[66] This is exemplified by Apple's creation of pastiches of existing typefaces when introducing the Macintosh in 1984.[67] Major foundries and tech companies like Apple and Microsoft create versions of widely used typefaces, like Times New Roman and Helvetica, to stay competitive or avoid licensing fees.[68] Hence, the proliferation of typefaces is only protected in computer typefaces, not typeface designs.

Considering the Economic Impact of Non-Copyrighting Typefaces

Typefaces play a significant role in corporate branding, with examples like Coca-Cola's Spencerian script logo[69] and AT&T's successful rebranding using a modified typeface.[70] Typefaces in commercial branding are so crucial that even minor changes can trigger unexpected consumer reactions, as seen when IKEA switched from Futura to Verdana while changing nothing else.[71] The customers' wrath was so comically intense that it was dubbed the "Verdanagate."[72] Over the years, companies have invested billions of dollars in their branding through typefaces,[73] underscoring the financial significance of typefaces for designers and corporations and emphasizing the necessity of protecting their artistic dimension.

Endorsing the 'Incentive Theory'

The 'incentive theory,' also called the 'welfare' theory, takes a utilitarian approach to frame laws that enhance overall welfare.[74] In the realm of copyright, temporary exclusivity incentivizes creative efforts.[75] Hence, the lack of extension of copyright protection to typefaces leads to easy replication, reducing incentives and diminishing profits for designers.

Refuting the 'Merger Theory'

The merger doctrine states that if expression and idea are inseparable and only one way exists to express the idea, they merge, render-

[64] Ibid.
[65] 'How to Make Your Own Font' (*Make it with Adobe Creative Cloud*) *available at:* <https://makeitcenter.adobe.com/en/blog/how-to-make-your-own-font.html> accessed 16 August 2023
[66] Copyright and Fair Use' (*Office of the General Counsel*) *available at:* <https://ogc.harvard.edu/pages/copyright-and-fair-use> accessed 16 August 2023.
[67] 'The History Of The Apple Macintosh.' (*CWSI*) *available at:* <https://cwsisecurity.com/the-history-of-the-apple-macintosh/> accessed 16 August 2023
[68] Fry B, 'Why Typefaces Proliferate Without Copyright Protection' [2009] SSRN Electronic Journal *available at:* <http://dx.doi.org/10.2139/ssrn.1443491> accessed 16 August 2023.
[69] 'Trace the 130-year Evolution of the Coca-Cola Logo' (*The Coca-Cola Company: Refresh the World. Make a Difference*) *available at:* <www.coca-colacompany.com/au/news/trace-the-130-year-evolution-of-the-coca-cola-logo> accessed 3 August 2023.
[70] 'AT&T enters wireless; rebrands back to its 125-year-old name - May 28, 2007' (*CNN Business*, 17 May 2007) *available at:* <https://money.cnn.com/magazines/fortune/fortune_archive/2007/05/28/100034251/index.htm> accessed 16 August 2023.
[71] 'Ikea Fontroversy: Brand Identity Threatened by Seemingly Poor Decision for Change' (*MSLK*) *available at:* <https://mslk.com/reactions/ikea-fontroversy-brand-identity-threatened-by-seeminly-poor-decision-for-change/> accessed 16 August 2023.
[72] Ibid.
[73] Holt D, 'Branding in the Age of Social Media' (*Harvard Business Review,* March 2016) *available at:* <https://hbr.org/2016/03/branding-in-the-age-of-social-media> accessed 1 August 2023.
[74] Jeanne C. Fromer, 'Expressive Incentives In Intellectual Property' [2012] Virginia Law Review 98, *available at:* <https://law.stanford.edu/wpcontent/uploads/sites/default/files/event/265497/media/slspublic/Expressive_Incentives_in_Intellectual_Property_1.pdf> accessed 12 August 2023.
[75] Ibid.

ing the expression uncopyrightable.[76] It is contended that typefaces are artistic, unique in their numerous combinations of design elements, and separable enough to merit protection. Concerns arise for Indian typeface designers without explicit copyright safeguards, impacting competition with foreign counterparts and discouraging digital market contributions due to lowered entry barriers and piracy risks.

Negating the Categorization of Typefaces in the 'Ip-Negative' Industry

The 'negative space' concept in IP protection argues against the need for IP safeguards to promote innovation or creativity, suggesting that protection might hinder progress.[77] Some claim that typefaces are an example of an IP-negative field, asserting that their abundance without copyright protection implies sufficient incentives for creation.[78] However, this notion is flawed.

The typeface industry possesses multiple forms of IP protection, rendering it not truly IP-negative. Even without existing protections, applying IP-negative principles to typefaces would disrupt the industry. Although typefaces lack formal copyright, the industry's reliance on licensing indicates the recognition of ownership and commercial rights.[79] It underscores that typefaces' value prompts private parties to craft agreements, suggesting a reliance on IP protection.[80] While some norms guide designer behavior, they alone cannot ensure proper protection and enforcement. The industry's roots lie in IP protection and the absence of such safeguards would damage it. The abundance of typefaces does not negate the necessity of IP protection, which incentivizes designers, promotes fair wages, and encourages creation.[81] The growth of typeface popularity suggests that designers may earn more, and leveraging existing IP protections is more practical than advocating for their complete removal.

Integrating Typefaces into India's Copyright Framework

Reanalyzing the Aananda Judgment

The Copyright Board's decision in the *Aananda* case that typefaces are not copyrightable demands reconsideration. *Firstly*, the Board's reasoning that typefaces are both utilitarian and artistic was based on the idea that if the aesthetic aspect cannot be separated from the functional aspect, it falls under the "merger doctrine" and cannot be copyrighted. While this rationale aligns with US copyright law,[82] it does not hold in the Indian jurisdiction.[83] In India, utilitarian aspects do not inherently disqualify a work from copyright protection.[84] The Indian Copyright Act does not require a strict separation between utilitarian and non-utilitarian aspects.[85] Instead, it demands that the total of these aspects be artistic enough to surpass the thresholds of originality and established doctrines.[86]

Secondly, the argument made by Scaria and George in "*Copyright and Typefaces*" suggests that anything not explicitly mentioned in the Copyright Act is not subject to copyright protection in India.[87] The Copyright Board's in-

[76] Jain S, 'The Principle of Idea-Expression Dichotomy: A Comparative Study of US, UK & Indian Jurisdictions' [2012] SSRN Electronic Journal *available at:* <http://dx.doi.org/10.2139/ssrn.2229628> accessed 16 August 2023.
[77] Rosenblatt EL,'A Theory of IP's Negative Space' [2011] Columbia University *available at:* <https://academiccommons.columbia.edu/doi/10.7916/D8X H01QD/download>accessed 14 August 2023.
[78] Ibid.
[79] *Evans* (n 9).
[80] *Evans* (n 9).
[81] Jain (n 77).
[82] Jain (n 77).
[83] Shivam K, 'Fonts and Typefaces: Are they Copyrightable?' (*SpicyIP*, 29 July 2021) *available at:* <https://spicyip.com/2021/07/fonts-typefaces-are-they-copyrightable.html> accessed 13 August 2023.
[84] Ibid.
[85] n 80.
[86] n 80.
[87] Scaria (n 22).

terpretation of "any other work of artistic craftsmanship" in section 2(c)(iii) was flawed. The Board mistakenly applied the rule of *ejusdem generis*[88] to restrict the scope of artistic works. However, this rule applies only when specific words form a distinct genus/category.[89]

aintings, architecture, and photographs do not share common characteristics besides their artistic nature, which also applies to typefaces. Additionally, the phrase "any other work of artistic craftsmanship" does not follow the specific phrases as required by the *ejusdem generis* rule, indicating that it is a residuary clause to encompass eligible artistic works.

Thirdly, the argument against copyright protection for typefaces was based on their absence from international treaties. However, the lack of explicitly mentioning typefaces in these treaties does not automatically exclude them from copyright protection.[90]

The Berne Convention grants countries flexibility in incorporating typeface protection into their legal frameworks.[91] Hence, a judicial revaluation of the Copyright Board's ruling to correct its flawed reasoning is necessary to determine the potential copyrightability of typefaces in India.

Addressing the Originality Dilemma

If we establish the inclusion of typefaces under section 2(c) of the Copyright Act,[92] Section 13(1)(a) mandate for originality for copyright eligibility in artistic works is another debate.[93] Copyrightability of new typefaces, with doubts arising due to their basis in pre-existing alphabets and symbols, is often referenced as the concern behind the potential lack of protection for typeface designs.[94] However, this apprehension is misguided. New typefaces meet the originality criterion established in ***Modak v. Eastern Book Co.***,[95] where the Supreme Court stipulated that a minimum level of creativity renders a work original. Similarly, in ***Burlington Home Shopping Pvt. Ltd. v. Rajnish Chibbe***,[96] the Court established the"sweat of the brow" test for originality, which mandates a certain level of effort and authorship attribution, both of which are satisfied by the creation of new typefaces, involving substantial effort in design and coding, thus conclusively fulfilling established standards for originality determination.

Based on the aforementioned contentions, typefaces are meritoriously eligible for copyright protection in India.

The Way Forward

It is essential to reconsider the prevailing reluctance to grant copyright protection for non-conventional works like typefaces in India. In the digitalized age, the ruling precedent of *Aananda* requires a renewed interpretation to remove the Court's outdated approach and recognize the craftsmanship elements of typefaces. While the abundance of similar typefaces might complicate establishing original creative expression, copyright can still be granted on a case-by-case basis if evidence of originality exists.

The demand for typeface protection as both a literary work (computer program) and a non-conventional artistic work stems from the scope of protection each provision offers. Copyright for a computer program safeguards the entire code's functioning, making protect-

[88] *Kavalappara Kochuni v. States of Madras* 1960 AIR 1080.
[89] Ibid.
[90] Berne (n 31).
[91] Berne (n 31).
[92] Copyright (n 13).
[93] Copyright (n 14).
[94] Summerfield VD and Zielaznicki KM, 'An IP Law Recipe for Alphabet Soup: Typefaces and Fonts' (*Lexology*, 20 March 2023) *available at:* <www.lexology.com /library/detail.aspx?g=abc0dc65-3120-4a61-a9c1-6fde0b7b6046> accessed 16 August 2023.
[95] 2008 1 SCC 1.
[96] 1995 PTC (15) 278.

ing each alphabet/symbol impractical. However, protecting typefaces as artistic works extends coverage to each original element, rectifying this limitation and allowing broader protection.

Two approaches can be adopted to rectify the persisting void in protective laws. One strategy, primarily to counter the merger doctrine, can be amending the Copyright Act for its definitions to include typeface protection explicitly. However, a more efficient approach would be for courts to set precedents that broaden the application of "other work of artistic craftsmanship" and expand the definition of "artistic work." Attempting to specify all non-conventional works in the Act could be counterproductive, potentially excluding unforeseen forms of creativity. While the current legal provisions are adequate, what holds greater significance is the precise interpretation of these provisions by the judiciary.

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Trade Secrets and Confidential Information: A Cross-Jurisdictional Examination of India and China

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ABSTRACT

The present scholarly piece offers a comprehensive exploration of the safeguarding of intellectual property by means of a cross-jurisdictional study on trade secret legislation in India and China. The paper delves into the intricacies of protecting intellectual information within a modern context characterized by the growing importance of intangible assets.

It begins by examining the expansion and significance of intellectual property rights in contemporary times, namely in the domains of scientific inquiry, artistic expression, and commercialization. This statement highlights the significant importance of patents, trademarks, registered designs, copyright, and confidentiality laws in granting artists and innovators exclusive rights. The aforementioned context provides a foundation for the comprehensive examination of trade secrets as a unique type of intellectual property safeguarding, which is predicated on the preservation of confidentiality rather than public dissemination. The paper examines the divergent approaches used by China and India in protecting trade secrets, highlighting China's utilization of comprehensive legal procedures in contrast to India's reliance on common law principles and equitable remedies. It undertakes an analysis of the definitions, enforcement procedures, and potential remedies within each respective country.

In addition, the article analyses the consequences of international agreements, including the trade-related aspects of Intellectual Property Rights, on the landscape of trade secret protection. The statement recognizes the necessity of implementing customized safeguards within the framework of the international business environment.

KEYWORDS

Cross-Jurisdictional Analysis; China; Intellectual Property Protection; India; Trade Secrets

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"Keeping secret is a survival tactic and commitment"

- Kaede Lazares

Introduction

There has been a significant increase in the need for safeguarding Intellectual Property, particularly in the domains of scientific and technological research, creative endeavours, and marketing tactics. Intellectual property laws, encompassing patents, trademarks, registered designs, copyright, and confidentiality provisions, provide legal mechanisms for granting exclusive rights within the marketplace. The significance of intangible property rights has grown substantially for organizations aiming to establish and sustain their market position. However, comprehending intellectual property rights necessitates a certain level of legal acumen owing to their intricate characteristics.

Intellectual property rights are predominantly governed at the national level rather than the international level and are obtained by complying with the specific laws of each country. International agreements such as the Paris Convention and the Agreement on Trade-Related Aspects of Intellectual Property Rights establish a baseline of requirements for the safeguarding of intellectual property at the national level. The extent of these rights is often limited to the national level; however, the protection of copyright is expanded to encompass member areas through the Berne

Convention and domestic legislation. Famous trademarks possess privileges that extend beyond national rules inside member countries.

Intellectual Property is typically linked with the conventional safeguarding mechanisms of Patents, Trademarks, and Copyrights. Trade secrets, despite being less well recognized, hold comparable importance. Trade secrets and patents differ in their approach to protecting intellectual property. While patents include public disclosure of the invention, trade secrets rely on maintaining confidentiality. In contrast to patents, which have a limited duration, trade secrets endure indefinitely as long as they are maintained in a discreet manner.[1] Numerous corporations hold important intangible assets, such as customer lists, production procedures, and source code, which are more appropriate for safeguarding through trade secret protection rather than patents, trademarks, or copyrights. The safeguarding of trade secrets is of utmost importance in preventing unlawful utilization by former employees or competitors.

The present study explores the topic of safeguarding trade secrets and conducts a comparative analysis of the legal frameworks governing trade secret protection in China and India. This highlights the proactive procedures that trade secret owners can implement to protect against infringement and effectively assert their rights within the legal systems of both nations.

Overview

The History and Evolution

The Law of Trade Secrets can be traced back to its historical origins in Roman law, wherein competitors were subject to punitive measures for using enslaved individuals to disclose proprietary information. The phenomenon under consideration originated during the period of the Industrial Revolution in England and afterward manifested itself in the United States, with a notable occurrence transpiring in the year 1837. The Restatement (First) of Torts, which was introduced in 1939, sought to systematize trade secret law by drawing on principles derived from common law. The Uniform Trade Secret Act was introduced in 1979 to establish a uniform legal framework for trade secret protection. This legislation has been accepted by 48 states, with the exceptions of Massachusetts and New York.[2] Diverse regional adaptations arose as a result of the implementation of UTSA regulations. The introduction of the Restatement (Third) of Unfair Competition in 1993 marked the implementation of a contemporary perspective, while the enactment of the Economic Espionage Act in 1996 established a set of federal provisions.

An Insight into Trade Secrets

Trade secrets, in contrast to other types of IPs, are subject to the effect of territorial laws and may vary across different jurisdictions. In essence, it pertains to privileged information that confers a competitive advantage, such as formulas, patterns, or compilations. All trade secret definitions encompass certain fundamental elements:

a) Secrecy: Refers to the state or condition in which certain information is not widely disseminated or publicly accessible.
b) Economic Advantage: Lies in the competitive advantage that is derived from the concealment.

[1] Tanushree Sangal, 'Unfurling the Proposed National Innovation Act 3(3)' [2007] Manupatra Intellectual Property Reports 29.

[2] Bradley E. Chambers, 'Texas Joins 47 other states to Adopt the Uniform Trade Secrets Act' (Baker Donelson, 30 May 2013) *available at:* <https://www. bakerdonelson.com/texas-joins-47-other-states-to-adopt-the-uniform-trade-secrets-act-05-30-2013> accessed 16 August 2023.

c) Confidentiality Measures: Precautions are implemented to ensure the maintenance of confidentiality.

Trade secrets are distinct from intellectual property and copyright. Breach of confidence acts cover no specific information. Insignificant or immoral knowledge may not be protected, similar to copyright standards.

Even if it doesn't meet copyright requirements, confidential material may be protected. Instead of copyright, trade secrets protect recognizable, original ideas with commercial worth. Instead of technical data's uniqueness, its cognitive process is important.

Examining trade secrets alongside trademarks and patents shows similarities and differences. Marks distinguish goods and services in the market, therefore consumer association and usage are necessary. Patents require the publication of an invention for a limited time. Trade secrets, however, create a persistent monopoly without legal protection, allowing competitors to copy the information.

Defining Trade Secret under TRIPS

The Uniform Trade Secrets Act of 1970 is widely used to create state trade secret statutes in the United States. This model defines a "trade secret" as information with independent economic worth that is not widely known or easily discoverable by stakeholders and subject to reasonable attempts to keep it secret.

Indian Innovation Bill Section 2(3) defines "confidential information" similarly to the US. Formulas, patterns, compilations, etc., that are not widely recognized, have commercial worth due to their secrecy, and have been kept confidential. Whether "information" is property is debated. Economic Espionage Act of 1996, which treats information as property, protects US trade secrets. Avoid immediately adopting the US method since English common law sees secret information as an equitable right rather than property. The Indian Innovation Bill definition nonetheless appears to match Article 39.2 of the TRIPS Agreement. TRIPS refers to trade secrets as "Undisclosed Information," underlining the need to prevent unauthorized disclosure, acquisition, or use. The Bill's definition conforms to TRIPS' "manner contrary to honest commercial practices," which covers contract, confidence, and incentive breaches. Protecting trade secrets and confidential information in innovation is stressed in the draft National Innovation Act. To protect competitive advantage and economic interests, innovative ideas, goods, and business procedures must be kept secret. Trade secrets and confidential information are essential to innovation and economic progress. While protecting against unfair competition, TRIPS Article 39.1 requires members to protect hidden information contained in Article 39, paragraphs 2 and 3. Common law countries protect sensitive information by case law rather than legislation, as in paragraph 2. Article 10bis of the Paris Convention (1967) concerns unfair competition, although it doesn't mention confidential information. Article 10bis prohibits unfair competition as interference with honest industrial and commercial processes.

Protecting government approval agency test data, especially for pharmaceutical products, was a concern. Member data must be protected from unfair commercial use and unlawful disclosure under Article 39.3. However, this rule applies only to pharmaceutical and chemical agricultural products, protects against unfair competition, and exempts government entities from secrecy requirements in the public interest. The government can utilize confidential test results to evaluate similar product applications from various applicants. In the excerpt, a person documents tries, uses, or sells the specifications of an invention relating to a product or substance before submitting a

patent claim in India or a conventional country. After filing a patent claim, selling or distributing the product may violate exclusive rights. The exception applies if a person makes or uses a product or substance based on innovation specifics provided by someone with an exclusive right to sell or distribute it.

Comparative Analysis

Position in China

The comparison can be made under the following headings:

Defining Trade Secret

Chinese trade secret laws are more comprehensive than Indian ones. The Chinese Anti-Unfair Competition Law defines trade secrets under Article 10. "Technical and Operational information" that is not public knowledge, economically beneficial to the owner, practically applicable, and actively protected by the owner is included. This definition requires all four criteria for trade secret infringement enforcement.

This "public" refers to industrial competitors or anyone seeking economic gains by exploiting the secret. In addition, "public" is limited to the "Chinese public," therefore a trade secret known overseas but not in China is nonetheless "unknown to the public" under this definition.

Whether tangible or intangible, a trade secret must provide profit, commercial value, or competitive advantages. It should be specific, applicable to industrial and business environments, and usable immediately, not just theories or broad principles. The owner must show they took reasonable steps to protect the trade secret. Trade secret owners must prove these measures. Chinese trade secret laws, as described in the AUCL, provide stronger protection than Indian regulations.

Trade secret infringements under Article 10 of the Anti-Unfair Competition Law include:

- Theft, promises of benefit, pressure, or other unethical tactics to get trade secrets.
- Disclosure, use, or permission to utilize trade secrets obtained by theft, promises of gain, coercion, or other unlawful means.
- Disclose, use, or allow others to use trade secrets acquired by breaching an agreement or violating the trade secret owner's confidentiality restrictions.
- In circumstances where the other party obtains, uses, or discloses a trade secret, they should have known about the illegal conduct.

Plaintiffs must prove that the defendant stole their trade secret. A preponderance of evidence must show that the plaintiff's trade secret fits legal criteria, that the defendant's usage is identical or substantially similar, and that the defendant used illicit means.[3]

Legal Framework

China's trade secret laws, regulations, and judicial interpretations cover enforcement. Primary components are:

- Trade secrets and trade secret violations are defined under Article 10 of the PRC Anti-Unfair Competition Law. Civil and administrative trade secret actions are based on Articles 20 and 25.
- Article 219 of the PRC Criminal Law criminalizes trade secret violations that cause considerable losses to the legitimate owner.
- PRC Contract Law: Article 43 requires negotiators to protect trade secrets

[3] Vai Io Lo and Xiawen Tian, *Law for Foreign Business and Investment in China* (Routledge 2009) 193.

even if no contract is executed. Trade secrets can be violated by violating this duty.

- Supreme People's Court Interpretation: Articles 9 to 17 provide recommendations for civil trade secret lawsuits.

Protecting trade secrets involves several methods:[4]

Administrative Actions: The Administration for Industry and Commerce can help a party with trade secret damages file an administrative action against the infringer.

Civil actions: The trade secret holder can sue the infringer.

Criminal Actions: The PSB investigates trade secret crimes, whereas the PP prosecutes. Trade secret owners can even file criminal cases in People's Courts without PSB or PP involvement.

Administrative, civil, and criminal measures protect Chinese trade secrets under this multidimensional system.

Remedies

Trade secret owners in China have many tools to fight infringements and preserve their rights. They can take various legal steps if they can prove the knowledge is a trade secret. The choices are:

- Criminal Action: Article 219 of China's Criminal Law criminalizes trade secret misuse, resulting in significant losses for owners and licensees. Fines, up to three years in prison, and harsher penalties for major offenses are possible. Trade secrets acquired, disclosed, or used through theft, coercion, inducement, or other illegal means are included.
- Administrative Action: The State Administration for Industry and Commerce issued administrative trade secret enforcement regulations. These rules allow AICs to fine, stop, or confiscate offending goods. However, AICs cannot authorize compensation. AIC fines are sometimes insufficient deterrents.
- Civil Action: Trade secret owners often sue infringers. Rights holders submit complaints to competent People's Courts to start such an action. Civil remedies include:

- Money Damages: Courts assess damages using patent infringement methodologies. Assess lost earnings, infringing gains, or appropriate license fees. If they are difficult to assess, courts can appropriate statutory amounts within a range. The infringer must pay the trade secret owner's investigation fees.
- Injunctive Relief is essential to stop infringement. A preliminary injunction can be obtained if the plaintiff establishes the knowledge is a trade secret, the defendant's acts create irreparable injury, and the plaintiff is likely to win.
- Pre-trial remedies include asset preservation orders and preliminary injunctions.

These steps give trade secret owners different ways to fight misuse and protect their rights under Chinese law.

Position in India

The lack of specialized legislation in India pertaining to the safeguarding of trade secrets and sensitive information is a noteworthy observation. Nevertheless, the Indian judicial system has exhibited a steadfast dedication to preserving the safeguarding of trade secrets

[4] Faizanur Rahman, 'Trade Secret Laws in China and India: A Comparative Analysis' (2015) JIPR 7.

by employing equitable principles, primarily relying on the legal acts of breach of confidence and contractual responsibilities derived from common law. Section 27 of the Indian Contract Act, of 1872, constitutes a fundamental legal basis that pertains to the notion of restraint of trade. The aforementioned legal framework not only serves to handle the potential violation of contractual commitments but also provides incentives for the promotion of creativity and innovation through the provision of suitable remedies.[5]

The legal framework for securing intellectual property is predicated on the notion that certain aspects of a product or innovation may be subject to different kinds of protection. The possible remedies for breaches of confidence include pursuing legal procedures to address the financial gains resulting from the improper utilization of sensitive information, seeking compensation for losses incurred, and getting court orders to prohibit further misuse. To achieve a favourable outcome in a judicial proceeding, it is imperative to show the existence of confidential information that was disclosed under a clear and explicit duty of confidentiality, either explicitly stated or implicitly. Furthermore, the activity must be considered to exhibit tangible evidence or the possibility for illegal utilization or revelation of the classified information. In situations when the dissemination of material has reached the public domain, pursuing legal recourse may not be feasible.

Interim injunctions are frequently granted for specific periods in cases where the plaintiff's confidential information holds time-sensitive value, according to the particular circumstances of the case. When assessing the balance of convenience, several factors are taken into account, including the possible severe consequences for the defendant resulting from an injunction, the level of clarity in the terms of the injunction, and the probability of the plaintiff getting an injunction as opposed to seeking damages.

Regarding legal remedies, the assessment of damages or compensation is predicated upon the market valuation of the confidential information. The process of valuation frequently encompasses theoretical situations wherein a transaction occurs between two parties who are both willing and agreeable. This technique is especially essential for protecting industrial designs, processes, or valuable business knowledge. The preservation of trade secrets is of utmost significance, as their status as trade secrets remains intact only as long as their confidentiality is upheld. However, if the confidentiality is breached, the material no longer retains its classification as a trade secret.[6]

Conclusion

In the contemporary global market, multinational corporations must have national regulations in place to safeguard their sensitive data. The assurance holds significant importance in influencing their investment selection within a particular country. Legislation is commonly required to delineate precise legal procedures for court proceedings due to the intricate nature of trade secret litigation. Inadvertently disclosing confidential information has the potential to diminish the competitive edge and economic benefits of the organization.

The Trade-Related Aspects of Intellectual Property Rights (TRIPS) is an international agreement that governs the protection and enforcement of intellectual property rights on a global scale. The legal frameworks of all member states have incorporated TRIPS requirements through the enactment or modifi-

[5] Chitra Narayan R Yashod Vardhan, *Pullock&Mulla:The Indian Contract & Specific Relief Acts* (16th edn, Lexis Nexis, 2019).

[6] MalathiLakshmikumaran, 'Utility Models: Protection for Small Innovations' (2004) JILI 322.

cation of laws. India, as a signatory of the TRIPS agreement, made revisions to its patent and copyright legislation and implemented additional legislation about trademarks, geographical indications, industrial designs, and integrated circuits. In the intellectual property landscape of India, there exists a legal gap wherein private trade secrets and sensitive information are not afforded legal protection.[7]

In response to TRIPS, India implemented a preliminary version of the National Innovation Act in 2008. The act aims to foster research and innovation by implementing a resilient support system for innovation, which is backed by public, commercial, or public-private partnerships. The National Integrated Science and Technology Plan is an additional objective outlined in the legislation. Additionally, there is a plan in place to establish uniformity and integration of regulations about confidentiality, trade secrets, and innovation.

On the other hand, China places significant importance on charges of trade secret theft. The Chinese government and judicial system have a comprehensive understanding of the value of trade secrets and the potential risks associated with their unauthorized disclosure or exploitation. China rigorously enforces the protection of trade secrets, irrespective of the scale of the company.

The lack of awareness regarding legal protection for trade secrets is commonly observed among key individuals and senior staff in China and India. Comprehensive training programs and trade secret advertising play a crucial role in enhancing employee understanding and mitigating inadvertent breaches.

The landscape of trade secret protection has undergone significant transformations. In an increasingly interconnected global economy, businesses must possess a comprehensive understanding of foreign legal intricacies and practices to safeguard their trade secret rights. As trade and investment activities transcend national boundaries, the need to protect proprietary information becomes paramount. The TRIPS agreement and the North American Free Trade Agreement have established provisions for the protection of trade secrets. However, it is important to note that the implementation of these standards may vary across various nations.[8]

The protection of trade secrets is subject to variations in national laws across different jurisdictions. The presence of diversity underscores the importance for foreign legal practitioners to possess an awareness of potential disparities to provide accurate court advice within this intricate domain.[9]

"Trade secrets are valuable information that gives you a clear advantage over your competitors as long as they remain secret"[10]

[7] Nandan Pendsey, 'Trade Secrets: India' (AB & Partners: Advocates and Solicitors, 16 August 2023) *available at:* <https://www.azbpartners.com/bank/trade-secrets-india/> accessed 16 August 2023.

[8] Edwin Lai, 'The Economics of Intellectual Property Protection in the Global Economy' IPRS *available at:* <https://www.iprsonline.org/karyiu/confer/Sea01/papers/lai.pdf> accessed 16 August 2023.

[9] Deepa Varadarajan, 'Trade Secret Fair Use' (2014) 3 Fordham Law Review *available at:* <https://ir.lawnet.fordham.edu/flr/vol83/iss3/9/> accessed 16 August 2023.

[10] Julie Desrosiers.

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Operating Agreement: A Cornerstone of Your Business Structures in the United States of America

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ABSTRACT

Legal documents are written instruments that outline legal rights, obligations, and relationships between parties. These documents serve as authoritative records and guides in various legal matters, they encompass a wide range of materials, like contracts, agreements, wills, deeds, licenses, affidavits, pleading, and more. These legal documents are meticulously crafted to ensure accuracy, compliance with relevant laws, and clear communication of terms. The effectiveness of legal regulations and Laws designed to enhance certainty in contractual relationships only achieve their purpose when communicated to the public. Ambiguities in the legal frameworks often lead to uncertainty. This article narrows its focus to the doubt surrounding the effectiveness of statutes of fraud in the context of LLC (Limited Liability Company) operating agreements. Examining case law from both the LLCs and Partnership context uncovers how applying statutes of fraud to otherwise adaptable and familiar entity forms often yields inequitable outcomes. When considering a new business structure offering personal protection with minimal formalities, opting LLC could be wise. With your specific chosen Business structure, the essential paperwork like an operating agreement holds significance. The operating agreement spans 5-20 pages and covers ownership, voting rights, powers, profit distribution, and more. Although some states don't mandate it, not having one is unwise. Keep it with core records for confidentiality.

KEYWORDS

Agreements; Business Structure; Legal Documents; Legal Rights; LLCs; Operating Agreement

Paper Code

RP03V12023

Introduction

Imagine, two friends want to start a cookie shop, and both have different roles and responsibilities. To make sure everyone knows what they need to do, both created a set of rules on a small piece of paper. It's like a set of instructions for how the cookie shop will work and what each member should do. This way, there won't be any confusion and everyone will know how to play their part to make the shop successful. When this paper becomes legally binding on the shop's owner it is called an Operating agreement to make sure everyone knows their roles and how the business will run smoothly. Operating Agreement is like a rule book for a special business called a limited liability company. In this rulebook, the owners/ members of the company write down how they will work together, make decisions, share the money they earn, and run the business. it's an important document that helps the members understand their roles and keeps everything organized so the business can be successful.

Research Methodology

This research paper is a combination of both primary and secondary research methodologies. The primary research includes the analysis of case law of the high court and supreme court Judgements involving the utilization of reliable legislation books to gather provision and statutory information.

Review of Literature

The Limited Liability Company is a business structure in the United States that combines the Pass-through taxation of a partnership or sole proprietorship with the limited liability of a corporation. The business trend in the Unit-

ed States is constantly evolving, and technological advancements and government regulations significantly shape the changing business landscape in the USA. Over the years, the dynamic market has given rise to various innovative business structures[1]. The Limited Liability Company (LLC) in the USA is a new and dynamic structured business.

For an LLC establishment, two vital documents[2] are required. The first is the ARTICLE OF ORGANIZATION- a prerequisite for legitimizing your business through submission to the respective state. This outlines the essential information such as legal business name, purpose, registered agent, and expected duration and proposes management structure. The second Critical and most crucial document is the OPERATION AGREEMENT, a contractual arrangement among LLC members, akin to partnership or shareholders agreements that outlines the organizational framework, detailing the roles of individuals involved, and delineates members' roles, rights, and obligations in the LLCs operational and financial aspects. Of utmost significance, it addresses the protocol when a member decides to exit the business, as well as the processes and timing for transferring or selling their stake in the LLC.

Need for an Operating Agreement

Once the Operating agreement is signed it has a binding effect on its members and here are some requisites to have the needfulness of an Operating agreement:

- Operating agreement protects the owner's liability within the LLC, by distinguishing the business from its owners for the LLC's debts and obligations.
- These written operational agreements contain some conditions and business arrangements that provide a reference point in case of conflict and avoid miscommunications between the members
- This agreement provides the organizational structure for the LLC which defines the rights, and duties and outlines the protocol for the inclusion of new members
- It can serve as a preventive measure against potential conflicts among business owners just by explicitly defining the financial and operational choices of the LLCs.
- It empowers to establishment of personalized procedures and governing guidelines for the LLC, granting the freedom to shape its functioning as per the owner's preferences.
- This agreement is a fundamental document that delineates the management, operation, and structure of the LLC, demonstrating to both internal and external parties that the business is well organized, serious, and operates professionally.
- To avoid any conflicts between business partners, the operating agreement clearly defines the duties, obligations, and anticipated outcomes of each member's involvement.
- Establishing rules and procedures that can adapt to changes in laws and regulations is a smart move that future-proofs the companies. It provides a solid framework and allows you to address potential issues or misunderstandings that may arise in the future with confidence.[3]

[1] Dharti Popat, Limited Liability Company In the USA, 2022.
[2] Chris Daming, 3 Reasons Why Your Single-Member LLC Must Have an Operating Agreement, 2023.
[3] Ijeoma S. Nwatu, Basic information about operating agreements, U.S small Business administration, 2016.

What Happens if You don't have an Operating Agreement?

Operating agreement holds many important reasons to sign it between the members:

- The LLC might become subject to state default regulations that might not align with the member's interests.
- With NO Operating Agreements, State default Rules will apply to the businesses
- NO written agreement may lead to friction or misunderstanding between LLC members that may leave them vulnerable to legal trouble and conflicts.
- Without an operating agreement, it may create challenges for its members in safeguarding the LLC's Limited Liability status and may raise ambiguity in the management and financial misunderstanding, ultimately jeopardizing the adherence to the chosen rules and protocols by the members.
- In the absence of an operating agreement, every member will possess equal rights irrespective of their capital contributions
- Rule about withdrawal and expulsion will not be defined for members and the transfer of membership interest will only be permissible with the unanimous consent of all other members
- Not having the operating agreement may result in potential trust issues within the LLC. Depriving it of potential tax benefits and legal protection, Moreover, a deficiency could deter potential investors and undermine the legitimacy of the business entity, fostering ambiguity that could result in legal disputes.

While most other states do not insist on including it, it is always considered wise to draft an operating agreement, as it protects the status of a company, comes in handy in times of misunderstandings, and helps in carrying out the business according to the rules set by the members[4].

Drafting an effective[5] Operating agreement for their LLCs

- Consult with the business lawyer to ensure that the operating agreement is tailored to the specific needs of the LLC and complies with state laws and regulations.
- As per the industry in which the LLC operates, there may be specific regulations that must be addressed in the operating agreement. Such as;

- Healthcare industry - may require addressing the regulations related to patient privacy,
- Legal Industry – may require regulations related to the ownership and management of law firms that need to be addressed in the operating agreement
- Financial industry – may require regulations for anti-money laundering that need to be addressed in the operating agreement
- Technology industry - may require regulations for the ownership and protection of software patents that need to be addressed in the operating agreement, etc.

- The basic information of the members must be mentioned such as their names, addresses, ownership percentages, designated rights, responsibilities, or compensations of each member.

[4] The New York state senate. "Section 417." Accessed Jan. 23, 2022.
[5] GouchevLaw ,10 must-haves in an LLC operating agreement,2023.

- The operating agreements should establish guidelines and rules for the LLC, providing clarity and guidance in the event of a conflict.
- LLC operating Agreement varies and is influenced by numerous factors, yet typically include[6]:
- The tax treatment of the LLC – how this is going to be taxed; as a partnership or corporation;
- The specification of the number of members and their ownership percentages;
- The management structure such as the roles and responsibilities of each member;
- The contributions of each member such as cash, property, or services
- How the profits and losses will be allocated among the members
- The operating agreement must be updated regularly to reflect changes in the LLC's ownership structure, management, or operations. And also try to review and update the operating agreement at least once a year.

An operating agreement is a very crucial document for LLCs that should be drafted with care and attention to detail. Regular updates for better effectiveness and all the required provisions as per the member's choices must the noted in the agreement to avoid any future conflicts.

Single Member or Multi-members Operating Agreement

An LLC may be owned by a single owner or multiple owners and accordingly, the operating agreements are to be created. The operating agreement for a single owner is simpler than the multi-owner LLC.

Irrespective of whether an LLC is single-member, multi-member member-managed, or multi-member-managed, it remains an essential document for one's business. Among the various reasons for creating an Operating Agreement, the most conspicuous one is establishing ownership. Creating the Operating agreement between a business and the single owner can help[7]:

- To override the default rules imposed by the state and provide the flexibility to modify these rules to align with the proposed terms,
- To separate and safeguard the member and business-related lawsuits and the LLC from personal liabilities.
- To structure the details like investor inclusion, repayment terms, voting rights, and exit strategies, foreseeing expansion upfront grants control, prevents negotiation ambiguities, and positions your company favourably when seeking investments.
- To outline the authority, compensation, and exit provisions of managers, defining managerial roles and responsibilities.
- to ensure accountability, loyalty, and financial prudence, enabling seamless day-to-day operations while you focus on strategic vision.

An operating agreement typically includes provisions related to ownership, management, profit distribution, decision-making, and dispute resolution it is required to ensure that the operating agreement covers all necessary aspects and complies with state laws.

Addition of new members: If incorporating an additional member into the LLC it is necessary to revisit all the required documentation in

[6] Nellie Akalp,Score for the life your business, What Should Your LLC's Operating Agreement Include?,June 20, 2023.

[7] Jennifer Reuting,Limited Liability Companies for Dummies, 4 Reasons Why a Single Member LLC Needs an Operating, 3 March 2023.

alignment with the terms agreed upon between the owner and the new partner. This step ensures that the operating agreement accurately reflects the updated composition and responsibilities within the LLC.

Through operating agreements, businesses can work with credibility and help to ensure LLC status, without legal documentation and following the legal process, proving the legal distinction between an LLC and its sole members will be challenging, and therefore, California, Delaware, Maine, Missouri, and New York are the countries that require the LLC Operating Agreement either oral or implied. Even though operating agreements are not legally mandated for LLCs in the remaining 45 states, it is strongly advised to have one in place.

Operating Agreement Vs. Article of corporation

After the comprehensive understanding of the operating agreement in this article, it's equally imperative to delve into the significance of the Article of Incorporation. Just as the operating agreement holds its crucial place, the article of incorporation stands as an indispensable document for any business. Both are crucial legal documents for any business they share some similarities and differences;

Similarities:

- Both documents are highly weighted and indispensable insights for the best functioning of the business
- They meticulously define the business's name, purpose, and operational protocols.
- The structure of ownership and management is intricately detailed in both documents.
- Irrespective of legal mandates, the presence of both these documents is a pivotal factor contributing to the triumph of the business.

Differences:

- Operating agreement adeptly crafts the legally binding professional relation between business owners, while the Articles of Incorporation delineate the legal relationship between business and state.
- Articles of incorporation are public documents filed with the state, while an operating agreement is for internal use.
- Articles of incorporation are required by law for corporations while operating agreements are not required by law in some states

In essence, comprehending these two documents, the operating agreement and article of incorporation is essential for the establishment and prosperity of the business.

Conclusion

An LLC is a flexible US business structure that blends partnership and corporation benefits, offering easy management and liability protection. Creating an operating agreement is not mandatory in many states still recommended for clarity in operations. This agreement outlines terms, protects status, and prevents misunderstandings. Without one, default state rules apply, potentially causing unsuitable regulations. An operating agreement also safeguards partners from personal liability and ensures fair profit distribution.

It's crucial to emphasize that the repercussions of lacking an operating agreement can vary based on the state of formation and the unique circumstances of the LLC. When an operating agreement is absent, the LLC becomes subject to the default regulations of its organizing state, which may diverge and not

align with the members' intended arrangements. These default provisions can include aspects such as equal voting rights for all members, irrespective of their capital contributions. It's noteworthy that the specific default rules applicable to an LLC without an operating agreement may differ contingent on the state of formation. For the most precise and up-to-date insights into the default rules governing LLCs without operating agreements in specific states and industries, seeking guidance from a legal professional is recommended.

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A Comparative Analysis of Copyright Law and Video Games

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ABSTRACT
The development of computer technology and digital resources has led to the genesis of various new industries. The video game industry is one such sector that has been growing rapidly in the era of faster internet and affordable computer devices. With the proliferation of video games in the cultural milieu, the need to protect the interests of the stakeholders has gained a massive impetus. However, being a relatively new area of intellectual property law, the legal protection afforded to video games is complex and convoluted as video games involve an amalgamation of complex and cross-cutting technologies that attract a variety of IPRs to protect the various elements of the video game. This article examines the copyright protection afforded to video games in the USA, Japan, and India and draws a comparative analysis of the standard of protection granted to video games.

KEYWORDS
Copyright; Video Games; Fair Use; Derivative Works; Idea-Expression Dichotomy

Paper Code
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Introduction

The advancement and development in the field of technology and computer resources have led to the growth of new and unique tech-based industries that thrive in the era of digitization. The video game industry is one of the newly established industries that have grown by leaps and bounds following the huge commercial success of the video game "Pong" developed by Atari in 1972. In the modern scenario, the video game industry generated $120.1 billion in revenue in the year 2019, while in the Indian context; the video game industry was worth $1.8 billion in 2021. With the growing influence of video games, evident from the market share held by the gaming industry, the need for legal protection and regulation of video games has become essential in the contemporary world.[1] Considering the new developments in the field of video games, there exist a lack of jurisprudence on the issue of intellectual property rights protection that must be afforded to the owners of video games. Video games, being an innovative as well as an interactive medium, consist of a wide array of elements and components that pose a challenge to the traditional perspective of IP protection, primarily due to the cross-cutting nature of video games. In addition to the protection of the video game itself which must be granted to the game developer or the publisher, the issue of user-generated video game content also comes to the fore. This research paper primarily focuses on the copyright protection granted to video games by making a comparative analysis of the legal provisions and judicial precedents concerning video games in India, the United States of America, and Japan.

Copyright and Video Games

The playable characters and graphics on a computer or mobile screen are operated and controlled by the player in a video game, which is a sophisticated interactive electronic game made up of numerous aspects.[2] As a result, the term "video game" can apply to everything from straightforward MMOs like

[1] Sameer Barde, 'Year Ender 2021: It's game on for online gaming industry, just play it right for regulatory clarity' *available at:* <https://www.financialexpress. com/brandwagon/year-ender-2021-its-game-on-for-online-gaming-industry-just-play-it-right-for-regulatoryclarity/2389443/> accessed 4 May 2022.

[2] F. Willem Grosheide, Herwin Roerdink and Karianne Thomas, 'Intellectual property protection for Video Games: A view from the European Union' (2014) 9 J. Int't Com. L. & Tech. 1, 4.

World of Warcraft to complex board games like chess. The former species of video games, in the context of intellectual property, do not offer specific characteristics that can be granted IP protection; however, the latter category brings forth multiple elements that can be afforded IP protection.

The innovative and interactive nature of video games enumerates multiple forms of media such as text, characters, graphics, photographs, video, audio, animation, game engines, computer programs, etc. This enables the video game to have multimedia rights that include copyright, trademarks, patents, publicity rights, moral rights, and contractual obligations. Patents are used to protect the hardware consoles as well as the software elements from being cloned or reproduced illegally.[3] In addition to it, trademarks are used to prevent knockoff games from having similar names and catchphrases. However, copyright protection must be granted to the various elements of video games, which include drawings, characters, background art, graphics, photographs, video, dialogue, music, animation, title, catchphrases, etc.

From the international perspective, the Berne Convention for the Protection of Literary and Artistic Work, 1886 provides the ambit of protection for video games.[4] Article 2 of the Berne Convention provides a broad definition of literary and artistic work in "the literary, scientific, and artistic domain" that encompasses video games as well. However, this definition treats the entire video game as a single entity, and as such, fails to specify the various components and elements, such as the art, characters, sounds, dialogue as well as the computer software, which make up a single video game. This raises the issue of whether these elements would be protected individually as separate works or as a whole, considering that video games are typically composed of multiple copyrighted works.

The varied complexities and ambiguities have been recognized by the World Intellectual Property Or-generation (WIPO), which clarifies that video games cannot be classified and each video game must be examined on a case-by-case basis by thoroughly analyzing its components and elements. Because of this, the audio-visual component and the computer software component are principally covered by copyright protection in the case of video games. In that regard, video games can be treated as computer programs and, thus, are classified as literary works.

Copyright Protection Granted to Video Games in India

The video game industry in India is in its very infancy, in comparison to the huge boom in video game technology as well as market revenue generated by such games. As such, there does not exist any express provision that deals with the protection of video games in India. Concerning copyright protection, the Copyright Act, of 1957 does not specifically protect video games and their contents. However, the individual elements of a video game may be protected as literary, artistic, or musical works.

Given that the video game business is still quite young, the Indian judiciary has not given it much attention. The Ministry of Electronics and Information Technology has classified the rights of video game publishers and developers under "multimedia products"[5] because there aren't many significant legal precedents in Indian law. The Ministry of Electronics and Information Technology has specifically

[3] Thomas Hemnes, 'Adaptation of Copyright Law to Video Games' (1982) 131 U. Pa. L. Rev. 171, 174.
[4] Yash Raj, 'The lacuna in the Indian copyright law vis-a-vis video games' (2020) NLUJ L. Rev. 112, 115.
[5] Multimedia is a computer based interactive communications process that includes a combination of Writing, sound, image, still images, animation, video, computer software or interactivity content forms, https://ww w.meity.gov.in/content/copyright`

acknowledged that the primary component of a video game, the graphical or video component, may be protected by copyright under the category of "cinematograph film." Therefore, if the many important components of a video game meet the requirements listed in the statute, they may be protected under Section 14 of the Copyright Act.

One of the few instances that dealt with the protection of video games in India was ***Sony Computer Entertainment Europe Ltd. v. Harmeet Singh***.[6] The case examined the issue of piracy of the PlayStation video games, in addition to deliberating on the issue of the subsequent sale of the pirated video game without the requisite license. Based on the facts and circumstances of the case, the Delhi High Court passed an interim injunction against such piracy which ensured that the PlayStation consoles could not modified without prior license by using pirated tools.

As for the ownership of the copyright, in the case of commercial "AAA" video games, the ownership vests in the publishing company rather than the individual contributors, in pursuance of the employer–employee relationship, as per section 17 of the Copyright Act. For indie video games, however, the ownership may vest in the author himself, in the absence of any contract to the contrary. However, a legal issue arises when the developers of a video game use copyrighted works, such as background music from famous singers or dialogues from existing movies. These works must be legally licensed as the Copyright Act provides clarity in this regard through Section 38A(2), albeit for cinematography films.

Copyright Protection Granted to Video Games in the United States of America

In the United States of America, the Copyright Act of 1976 does not specifically protect video games; however, there is a wide array of cases that sheds light in this regard. For a work to be copyrightable under the Copyright Act it must meet the threshold of originality, be fixed in a medium (whether analog or digital) and the work must be perceivable and reproducible.[7]

Additionally, the video games are given special protection in the United States of America. Some various associations and NGOs remain vigilant concerning video game piracy and other such infringements. The Entertainment Software Association (ESA) is one such association in the U.S. that manages and looks after anti-piracy programs that are required to deal with issues of piracy in the U.S. and a few other nations around the globe. The association works for the business as well as the requirements about public affairs of the companies that produce computer and video games for video game consoles, personal computers, and the Internet.

The ESA has been successful in preventing piracy of video games to a significant extent through diligent investigations and vigilance. It has initiated civil suits against the persons and companies that are responsible for pirating video games. The ESA has also been monitoring as well as supporting enforcement efforts against online piracy, investigations and prosecutions by law enforcement officials and government agencies, and training and educating customs agents and law enforcement officials in the U.S. and several foreign countries.[8] The threats addressed by ESA's efforts include downloads of illegal game files, sales of pirated games, and offerings of console circumvention technology and services, both online and via retail outlets.

[6] Civil Suit No. 1725 of 2012.

[7] Shani Shisha, 'Fairness, Copyright, and Video Games: Hate the Game, Not the Player' (2020) 31 Fordham Intell. Prop. Media & Ent. L. J. 694, 697.

[8] Joe Linhoff, 'Video Games and Reverse Engineering: Before and After the Digital Millennium Copyright Act' (2004) J. on Telecomm. & High Tech. L. 209, 212.

In the United States of America, video games have been compared with other conventional forms of artistic media by the judiciary. The US Courts have granted video games the same standard of protection as that provided to traditional creative works.[9] While the video game's artistic elements can be copyrighted, the gameplay elements are ineligible for protection. The Digital Millennium Copyright Act (DMCA) was passed in the US in 1998, which prohibits hardware and software anti-circumvention tools for video games.[10]

The doctrine of ideas–expression dichotomy comes to the fore when there is an issue regarding the similarities between two or more games. The doctrine broadly states that copyright protection does not extend to an idea, theme, plot, or storyline; rather it protects the manifestation or expression of that idea. In Atari, Inc. v. Amusement World, Inc., [11] the court held that certain elements are "inextricably associated with the idea of a particular category of video games" and that these elements could not be granted copyright protection. Nonetheless, the case of ***Tetris Holding, LLC v. Xio Interactive, Inc.***, [12] dealt with one of the most explicit cases of copying a video game in which the elements like the movement of the objects, playing field dimensions, color changes, and other aesthetic elements were held to be protected as original expressions of an idea; it was termed as a case of 'wholesale copying'. However, if the similarities are too evident and obvious, then such a video game would not be granted copyright protection. In ***Atari v. Philips***,[13] the Court granted an injunction to stop the sale of the game "K.C. Munchkin!" because of its similarities with "Pac-Man."

In the same context, however, there are generic elements in video games that fall under the doctrine of scenes fair. This doctrine refers to those kinds of video game elements that are essential to create the video game and convey the idea of the authors, and without the use of such generic elements, the game would be incomplete or meaningless.

Such essential generic elements, artwork, and expressions are not copyrightable.[14] Scenes a fair also applies to certain genres of games. For example, in a football video game, the design elements of the football, goalposts, stadium, and players are necessary.

To examine the similarity between the video games, the US courts have developed the following tests:

1. Subtractive Approach Test – In this test, the court examines the entire video game and then subtracts the elements of the game bit by bit. This approach is used when the video game has both copyrighted material as well as materials from the public domain. It was developed in the case of ***Nichols v. Universal Pictures***,[15] in which the court laid down three steps to ascertain whether there was copyright infringement:

- The video game in question is examined to determine the elements that are protected,

- The unprotected parts are subtracted, and

- Significant similarities are examined between the allegedly infringed video

[9] Brown v. Entertainment Merchants Association [2011] 564 U.S. 786.
[10] ibid 786.
[11] [1981] 547 F.Supp. 222 (D. Md.).
[12] [2012] 863 F.Supp.2d 394 (D.N.J.).
[13] [1982] 672 F.2d 607 (7th Cir.).
[14] Kyle Coogan, 'Let's Play: A Walkthrough of Quarter-Century-Old Copyright Precedent as Applied to Modern Video Games' (2017) 28 Fordham Intell. Prop. Media & Ent. LJ 381, 382.
[15] [1930] 45 F.2d 119 (2d Cir.).

game and the allegedly infringed video game.

2. Total Concept and Feel Approach - In this approach, the court looks at video games as a whole rather than breaking them down into "protected" and "unprotected" aspects. To compare the two video games, the entirety of the work is examined to see if there was a copyright violation.

3. ***Atari v. North American Philips Consumer Electronics Corp.*** led to the development of the substantial similarity test. The Court held that although the functions and expressions of the two video games may not be the same in many respects if the parts of the second alleged infringing work are copied completely or partially from the original video game, it is a copyright infringement

4. Abstraction Filtration Comparison Test - This test was laid down in Computer Associates International, Inc. v. Altai, Inc.[16] The test, like the subtractive test before it, lays down 3 steps: Abstraction, that is to ascertain each level of abstraction; Filtration, that is to identify factors at each level that are not deserving of protection and subtract them from consideration; and lastly, Comparison, that is to compare the remaining components for infringement.

Copyright Protection granted to Video Games in Japan

Similar to the Indian and US copyright laws, the Japanese Copyright Act of 1970 does not specifically define or refer to video games. The copyright regime in Japan views computer programs and video games as "works of authorship" entitled to appropriate copyright protection because they can be seen as compositions in which ideas or emotions are expressed creatively and which fall under the literary, scientific, artistic, or musical domains.[17]

In Japan, the courts have ruled that copying occurs when data is stored in a computer's read-only memory (ROM), and hence illegal copies can be considered copyright breaches. In the same manner, hardware circuitry may hold information regarding the software while still being copyrightable, and video games can contain artistic expression that is protected by the copyright laws. Video games are granted stronger protections for copyright as Japan's courts typically put more onuses on plaintiffs in copyright infringement cases to demonstrate similarity, and the fair use allowances tended to be more lax. Similar to the Digital Millennium Copyright Act of the U.S., Japan has amended its copyright laws to prohibit hardware and software anti-circumvention devices.

The Japanese judiciary has recognized video games as “cinematographic works” in accordance with Article 2(3) of the Japanese Copyright Act, as affirmed by the Supreme Court.[18] However, components like programming and computer codes may be protected as literary works. In ***Taite KK v. Makoto Denshikegye KK***., the defendant had created and sold a counterfeit video game. The Yokohama court granted the plaintiff damages on the grounds of copyright infringement.

Conclusion and Suggestions

The exponential development of the video game sector, along with the increase in the usage of computers and the internet, has

[16] [1992] 982 F.2d 693 (2d Cir.).

[17] Judith J. Welch and Wayne L. Anderson, ‘Copyright Protection of Computer Software in Japan’ (1991) 11 Comp. L. J. 287, 291.

[18] Case No. H13-ju-952.

brought forth into the limelight various issues that question the traditional perspectives in regard to the IP protection granted to artistic and creative expressions as well as the rights of the authors and the stakeholders. In this context, the intellectual property rights regime must adapt to modern requirements so that the rights of the various parties can be protected. Based on the above analysis, it is evident that a video game involves a wide array of elements which include the artwork, the soundtrack, the dialogues, and the overall mixture of the various other elements that ensure that the player has an immersive experience.

In the Indian context, the Copyright Act, of 1957 is inadequate as it fails to grant the requisite protection to video games. To keep up with the advancement of technology, the Act must be amended so that it includes provisions that grant explicit protection to the video games. Considering that the growth in the usage of the internet has allowed video game developers to cooperate and collaborate, it has become essential that a global IP framework should be adopted that grants requisite protection to video games. The online streaming of video games and e-sports tournaments must also be duly regulated. As such, video games can be granted due copyright protection only when the existing copyright laws are amended so that they take into account the modern issues and challenges posed by video games.

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Trade Secrets for Bodo Traditional Clothing: An Empirical Study with Special Reference to Dumbazar and Kumguri Villages, Gossaigaon Sub–Division, Kokrajhar, Assam

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ABSTRACT
Information that could give commercial advantage to the trader is eligible for legal protection. A trade secret may be a formula, pattern, compilation, or business strategy that is sensitive and confidential. At the international level TRIPS Agreement mentions that the member states are under an obligation to protect against the unlawful use of trade secrets obtained without consent. Paris Convention also requires the member states to confer protection and enforcement to industrial property including trade secrets and confidential information. However, India does not have an enacted law for trade secrets to date. This paper focuses on the traditional handloom weaving knowledge of the Bodo tribe of Assam. The main aim of this paper is to investigate if trade secrets can accommodate traditional knowledge under its purview because other intellectual property laws like copyright, geographical indications, patents, etc. are technical and grant protection for a limited period of time. This paper will investigate if separate enactment for trade secrets is required and examine the applicability of trade secrets for the rights and recognitions of Bodo handloom weavers. The author will also study to find out the best approach to provide inclusive protection to the Bodo handloom weavers.

KEYWORDS
Handloom; Trade Secret; Confidential; Protection; Traditional; Weaver

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Bodoland at a Glimpse

Bodo is a linguistic and ethnic indigenous community settled largely in the Brahmaputra valley of Assam. Mostly they are found to be living in the Bodoland Territorial Region (B.T.R)/Bodoland Territorial Council (B.T.C) jurisdiction. However, the Bodo community is also spread in other parts of Assam like Karbi Anglong, Sonitpur, Lakhimpur, Dhemaji, and several other districts of Assam. To protect the political interest and to recognize the Bodo community, the VI[th] Schedule of the Constitution of India was amended and thereby got a separate Council named B.T.C with four districts named B.T.A.D in the year 2003. The B.T.C accord was a peace settlement between B.L.T cadres, All Bodo Students' Union (ABSU), Govt. of India, and Govt. of Assam wherein the B.L.T. cadres have laid down their arms with aims and objectives to rehabilitate in the society. Further, once again in the year 2020, N.D.F.B cadres have laid down their arms and undergone the third Bodo peace accord with Govt. of India, Govt. of Assam, and All Bodo Students Union (ABSU) i.e; known as B.T.R. accord. At present B.T.R. has 5 (five) districts with a recent declaration of Tamulpur as a new district in 2022[1] and Bodoland Territorial Council has 40 elected members in its Legislative Assembly and 6 nominated members by the Governor, Assam.[2] B.T.C as per the provision of para 3 B[3] of the sixth schedule[4] have

[1] Notification by the Governor of Assam vide ref. no. GAG (8)185/2021/25 dated; Dispur the 23[rd] January, 2022.
[2] Preeta Brahma, 'Protection of Bodo Handloom Weavers via Intellectual Property Laws – An Overview' (2021) 4 (6) International Journal of Law Management & Humanities 99 *available at:* <https://doij.org/10.10000/IJLMH.112199> assessed 6 April 2022.
[3] 3B.Additional powers of the Bodoland Territorial Council to make laws.—(*1*) Without prejudice to the provisions of paragraph 3, the Bodoland Territorial Council within its areas shall have power to make laws with respect to:—
(iv) cultural affairs
(x) handloom and textile

been vested with the power to make laws in respect to 40 subject matters. Cultural affairs, handloom, and textiles are two subject matters out of 40 on which the B.T.C. has the power to make laws.

About Bodo Handloom

Weavers: Like any other indigenous community, Bodos also has several traditional knowledge in the fields of art and craft, folklore, traditional medicinal practitioners, healers, food habits, ways of building houses, etc. One of the commonly practiced knowledge is traditional weaving. Weaving used to be part of every household activity in earlier times. Without weaving the household activities were considered incomplete. Among the Bodo tribe weaving activity to date is performed only by the women and not by the men. In earlier times the women of every Bodo house used to weave for their own purpose of wearing and for their family members. Whereas, at present women have started weaving to earn a livelihood. From the past generation itself, Bodo women were never subjected just to performing household activities alone. They have been always contributing towards the livelihood of their family. It could either be through cultivation or weaving for them to reduce the burden of purchasing for regular use. However, there is a difference in today's time weaving in comparison with that of earlier times. At present in Bodo society, there are three kinds of handloom weavers; one kind is independent home weavers another one is small-scale industry weavers, and the third kind isweavingunderco–operative society or federations/associations, etc. The independent home weavers are just like the traditional handloom weavers who perform weaving after completing their household work or whenever they find time to do so. On the other hand, small-scale industry weavers are employed under an owner. The weavers under cooperative societies/federations or associations are hired by the chairman of the organizations. They are given a schedule for their work and are paid per item produced by the respective owner/chairman. The independent home weavers are the ones who would possess a single flying shuttle loom made with saal timber known as sal – tat. Few weavers cannot afford to purchase a sal tat or make the same. Such home weavers are making use of beetle nut tree stems to continue the weaving process. There are five kinds of Bodo clothing woven traditionally. They are Dokhona (costume for women that is wrapped around the chest and falls till ankle tied around the waistline), Jwmgra (costume for women spread around the neck like dupatta), Aronai (veil that is presented to guests as an honor and respect), Hichima (big size cloth that may be used as a shawl or thin like blanket during early winters), Gamsa (this is a knee length clothing for the men). Among these dokhona and jwmgra can be made with all kinds of thread including cotton, silk, polyster, eri silk, etc. Hichima is commonly made with eri silk and polyster, etc. gamsa is made mostly with cotton thread and aronai is made with polyster, cotton, and eri silk, etc. The whole process and tools used for weaving can be well-referred to the article titled "Traditional Weaving Technology of Bodo Community of Assam" published by Dr. Hemanta Mochahary, Dr. Ambeswar Gogoi, and Bikash Chetia in the year 2020.[5]

[4] Paragraph 2 has been amended in its application to the State of Assam by the Sixth Schedule to the Constitution (Amendment) Act, 2003 (44 of 2003), s. 2, so as to insert the following proviso after sub-paragraph (1), namely:-
—Provided that the Bodoland Territorial Council shall consist of not more than forty-six members of whom forty shall be elected on the basis of adult suffrage, of whom thirty shall be reserved for the Scheduled Tribes, five for non-tribal communities, five open for all communities and the remaining six shall be nominated by the Governor having same rights and privileges as other members, including voting rights, from amongst the unrepresented communities of the Bodoland Territorial Areas District, of which at least two shall be women.

[5] Dr. Hemanta Mochahary, et al., 'Traditional Weaving Technology of Bodo Community of Assam' (2020) XII

Trade Secret

Trade secret plays an important role in the field of research and development. A trade secret is confidential information that brings commercial advantage to the owner in conducting the business. The owner of such information intends to keep it secret as it brings commercial advantage to him. Usually, trade secret is not revealed because once its glory is lost it no longer remains a secret. Almost any type of data, process, or information can be referred to as a trade secret so long as it is intended to be kept secret and involves the economic interest of the owner. The owner of such information maintains secrecy because a non – tiring effort and the intellectual attempt had been made to create a particular thing. Trade secret plays a pivotal role in protecting innovations and establishing rights to use technology.[6] It is believed that in today's global market, those business of which the information and knowledge is kept secret will succeed. If the business policies are made known to the outside world then it becomes difficult for the owner to safeguard the information which could have an adverse impact on the business.

The information might be misappropriated, and as a result, the value of the business may fall down. Trade secrets can last as long as they secret is maintained. The owner has to put in a lot of effort to maintain the information with due diligence and utmost care. A small negligence on the part of the owner can bring adverse effects to the business.

However, it may not be confused with that of the patent. The trade secret may not fulfill the requirement for a patent because such secret or information may not be novel.

Therefore, trade secrets are not similar to that of a patent. Patent once granted falls on the public domain for further development and innovation and is protected only for a period of 20 years. But in the case of a trade secret, it is protected as long as the secret is maintained.

The owner of the secret must attempt or take necessary steps to protect the trade secret. It is not very difficult for the owner to do so. He/she has to make sure that the information is not easily available or readily accessible to the public. For instance; the Coca–Cola Company and Kentucky Fried Chicken (KFC) have maintained their secrets of processing the beverage and crispy fried chicken for years together with their strong company policies.

Definitions

"Trade secret means information which has got certain commercial value and which provides the commercial advantage to the owner."[7]

TRIPS Agreement:t[8]

This Agreement does not treat 'undisclosed information' as a form of property but explains it as any information that is secret and having commercial value is prevented from being disclosed as long as such information is subject to secret with reasonableness. If any such secret information is obtained from the holder without his or her consent shall be subjected to breach of contract, breach of confidence, and dishonest commercial practices.

(VI) Journal of Xi'an University of Architecture & Technology 1752 *available at:* <https://xajzkjdx.cn/gallery/178-june2020.pdf> assessed 6 April 2022.

[6] Md. Zafar Mahfooz Nomani and Faizanur Rahman, 'Intellection of Trade Secret and Innovation Laws in India' (2011) Vol. 16 Journal of Intellectual Property Rights 341 *available at:* <http://nopr.niscair.res.in/ bitstream/123456789/12449/1/IJPR%2016%284%29%20341-350.pdf> assessed 6 April 2022.

[7] N.S. Sreenivasulu (1st ed.), *Law Relating to Intellectual Property* (Partdridge Publishing) 2013.

[8] TRIPS Agreement *available at:* https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules7_e.pdf accessed on 7 April 2022.

Emergent Genetics India Pvt. Ltd v. Shailendra Shivam and Ors. on 2 August 2011:[9]

the Delhi High Court in this case held that trade secrets are a legal concept that attempts to protect confidential information from illegal acts from rivals.

If the trade secret or information owner proves that reasonable efforts were made to keep the information confidential, then in such cases trade secret shall remain confidential and be legally protected. On the other hand, if the trade secret owners cannot establish reasonable efforts to protect confidential information, then they risk losing the quality of confidentiality of the information even if it is obtained by rivals without prior permission

Ambiance India Pvt. Ltd. v. Shri Naveen Jain, 122 (2005) DLT 421,[10]

the Delhi High Court in this case had held that a trade secret is protected and confidential information which the employee has acquired in the course of his employment and which should not reach others in the interest of the employer. However, routine day-to-day affairs of employers which are in the knowledge of many and are commonly known to others cannot be called trade secrets. A trade secret can be a formula, technicalknow–how or a peculiar mode or method of business adopted by an employer which is unknown to others.

International Framework

TRIPS Agreement[11] obliges the member states to protect all the intellectual properties that have been undertaken by the WTO. This agreement through Section 7 Article 39.2 provides for the protection of undisclosed information. It is mentioned that any such information should not be readily accessible to persons outside the circle. It must be known only by a limited number of persons. The owner must take reasonable care to protect the information from others. However, only that information should be secret which contributes to the business and commercial activities. It highlights that natural and legal persons shall be capable of preventing valuable information from outsiders. Article 39.3 requires the state to protect its people from unfair commercial use while requiring the conditions for approval of pharmaceutical or agricultural chemical products from the Govt. The submission of undisclosed tests or other data shall be protected against unfair commercial use.

Article 10bis of the Paris Convention[12] intends to apply to industrial activities including trade secrets and confidential activities by conferring protection and enforcement of trade secrets for its member states.

This convention grants protection to the trade secret owner without any discrimination on the grounds of the basis of the world or origin of the country. This convention also tried to regulate unfair competition in the field of trade and commerce by restricting the unauthorized use of confidential information or trade secrets by ensuring effective measures.

The member states must prohibit the acts that create confusion with the establishments, goods, or industrial and commercial activities of a competition. However, it does not include the wrongful misappropriation of trade secrets or confidential information or the protection of industrial trade and business secrets.

[9] Emergent Genetics India Pvt. Ltd vs Shailendra Shivam And Ors *available at:* <https://indiankanoon.org/doc/183763759/> accessed on 09 April 2022.
[10] Desiccant Rotors International ... vs Bappaditya Sarkar & Anr *available at:* <https://indiankanoon.org/doc/175180860/> accessed on 10 April 2022.
[11] TRIPS Agreement, *available at:* <https://www.wto.org/english/tratop_e/trips_e/ta_docs_e/modules7_e.pdf>
[12] Paris Convention, *available at:* https://www. Wipo .int/edocs/pubdocs/en/intproperty/611/wipo_pub_611 .pdf accessed on 10 April 2022.

Objective

i. To analyze the applicability of trade secrets in matters of traditional knowledge.
ii. To provide legal protection and recognition to the Bodo handloom weavers.
iii. To study for providing a suitable market to the traditionally weaved Bodo dresses with the presence of fair competition.

Methodology

This study is carried out concerning the Bodo handloom weavers of Dumbazar and Kumguri villages under the Gossaigaon sub-division and Legislative Assembly constituency of Kokrajhar District, Assam. The data are collected from secondary sources and through the questionnaire method conducted by the author. The sources of secondary data are books, journals, research articles, periodicals, etc.

Research Questions

i. Whether Bodo traditional dresses be protected as a trade secret?
ii. Whether trade secret should be enacted by the legislation?
iii. Whether already available knowledge among the public eligible for protection under the efficacy of trade secrets?

Results and Findings

It is challenging for international agencies to assess the characteristics of traditional knowledge and indigenous persons. The reason is that every indigenous community has a unique way of projecting their traditional knowledge and customary practices. Every indigenous community of this world has unique characteristics with sheer knowledge and diversity originating from nature and passed on from generation to generation. Similarly, the Bodo community is also one such community that has diverse traditional knowledge and traditional cultural expressions that are continuing. One of them is the weaving culture of the Bodo community. To some extent, it is still being practiced but has reduced to a lot of extents due to reasons like modernization, and disinterest among the new generation to learn and practice the same. However, there are some notable villages or houses in Bodo society that are still practicing weaving to earn a livelihood. However, the traditional methods of weaving have taken a slight shift to a certain new form. This is what makes traditional knowledge in true sense because traditional knowledge evolves with its existence with time. The age-old practice of making the thing cannot meet the expectations of newer generations. So the new generation must explore to bring in a little change in the process of making that particular thing by keeping the traditional touch intact. A slight modification in the process of making that particular thing is needed to fulfil the needs of present times. Using recent technology in the process of making the traditional thing is needed to speed up the process and reduce the time consumed.

Similarly, the Bodo weavers of Dumbazar and Kumguri villages too have adopted the traditional process of weaving with slight modification. Earlier the entire steps right from warping the yarn (ji swngnai) to weaving (ji danai) were performed by the weavers themselves with the support of other women from family and neighbours. However, they have adopted a modified weaving process at present. The usual process of present weaving is that the weavers purchase the thread from the market. After purchasing the thread they themselves perform the spinning or winding part and some of them hire other persons to get this particular stage done for Rs 10/- (Rupees ten only) per bobbin. The warping stage (ji swng-

nai) is also outsourced to other person whose business is just to warp for Rs 100/- (Rupees one hundred only) per piece of Dokhona. The other stages like sizing, beaming, looming, and weaving are performed by the weavers themselves. Another notable practice of them is that the weavers do not sell them directly at the market. There are women who would purchase from the weavers and resell them to the vendors or sell them to the retail buyers. Moreover, these weavers do not weave all kinds of clothes. They are restricted to making just dokhona (the traditional attire for the Bodo women). That too mostly they are involved in making just the cotton maidi dokhonas (rice starch). This is not very appreciable because dokhona is not the only Bodo cloth. There are other kinds too. This leads to further questions like why are the independent weavers of Dumbazar and Kumguri villages not weaving other kind of Bodo cloth? During interaction it was told by one of the respondent that weavers are very much accustomed to weaving dokhona and never felt the need to weave other kinds. This definitely is a threat to the traditional cultural expression of the Bodo tribe. Aronai is one of the most important parts of Bodo culture as it is used to felicitate guests, and honour dignitaries. Also, it is used by Bodo dancers, singers, and men playing different instruments during Bagrumba dance (folk dance), kherai dance, etc. Gamsa is another important and the only cloth for the Bodo male is not being woven by the weavers of Dumbazar and Kumguri villages. This is definitely not a positive practice. This is a threat to the sustainability of Bodo culture. The identity of any community is dependent on cultural practice and dress is considered one of the important factors for preserving culture. It is a traditional cultural expression (TCE). Traditional dresses are one of the ways of preserving cultural identity. Because traditional dress does not just help people to be identified but it is also required to perform different ceremonies. For instance, marriage, religious rites, and celebrations are incomplete without the traditional clothing. The future generation should be aware and exposed to the fact that along with dokhona other kinds of dresses are also woven traditionally. Since traditional knowledge is rarely documented therefore practice is the only way of preserving them. Often for some indigenous communities, there are local customary laws that govern traditional knowledge akin to intellectual property. In such cases, the community collectively is responsible for maintaining the knowledge. At times a special status is being given to particular individuals who are specialized in respective knowledge like traditional healers, traditional medicinal practitioners, etc. However, weaving is completely different from that of any other traditional knowledge because many Bodo women are exposed to the weaving culture. So giving individual recognition and protection to every weaver is not a solution. Moreover, intellectual property laws like patents, GI, and copyright cannot grant absolute rights to traditional knowledge.

Unlike other categories of intellectual property, trade secret law may accommodate the conflicting privacy and commercialization concerns of traditional knowledge holders. But the trade secret law applies only to relatively secret, as opposed to publicly available, information may frustrate some traditional knowledge holders – particularly those whose knowledge is already publicly available.[13]

Discussion

Through trade secrets, an owner or the proprietor can keep the secret unrevealed from its competitors or rivals. It is a mechanism to protect business-related data from the public

[13] Deepa Varadarajan, 'A Trade Secret Approach to Protecting Traditional Knowledge' (2011) 36 (2) The Yale Journal of International Law 372 , *available at:* <https://paers.ssrn.com/sol3/papers.cfm?abstract_id=1892359> assessed 6 April 2022.

that is not easily accessible. Trade secret law strategy is to protect, uphold, and foster business integrity principles and reasonable dealing, and also inspires innovation. The unlawful use of individuals other than the owners of such information leads to an unethical activity and a breach of secrets.[14] Trade secrets will develop an independent economic gain for the owner/company/proprietor of the respective business. But the only requirement is to take reasonable steps to maintain the secrecy and non-disclosure for the sustainability of the business. The essential requirements of trade secrets in comparison to other intellectual property laws are lesser. For instance; copyright law also to an extent grants partial protection and recognition to the traditional dresses of Bodo. However, inclusive protection is not feasible under it due to its technicality. Moreover, it grants protection for a limited period of 60 years only. Certain aspects of Bodo dresses like "agor" (which means design) may be protected as the artistic ability of a weaver is required to make such a design. It involves literary knowledge of a weaver to make such agor on a dokhona or a jwmgra. Copyright law in India grants protection to the artistic and literary subject matter for a period of 60 years. But that does not supply the need to grant recognition to the traditional knowledge because it is for the eternity and sustainability. For protection under geographical indications, the applicant should be a registered group of associations under the law like society, trust, etc. The rights over the product are granted to the registered group. Moreover, another requirement under laws of geographical indications is that the product is recognized from its region of origin. In that case, the Bodo traditional dresses of all the localities will not be protected. In that situation, Bodo weavers from the entire region shall apply for GI tags separately. That is not possible because, for a single product, multiple GI tags are not granted. There will be differences among the Bodos and all the weavers will not get justice. This will further violate the socio–economic rights of every Bodo weaver. On the other hand, patent law grants protection for a period of 20 years only. The essentials of patents are novelty, usefulness, non–obvious, industrial applicability, and inventive steps. The criteria of novelty are not fulfilled in the case of traditional knowledge of weaving because this particular practice is not new and novel. It has been practiced for many years. It is a part of the customary practices. Therefore; a patent too is not a correct approach to protecting the traditional knowledge of weaving. A trade secret does not require the information to be novel or non–obvious. A slight improvement to the known process or discoveries may qualify for trade secret protection. If not exclusive potential economic value is also sufficient to qualify for the trade secret. And unlike patent law, neither the identification of individual trade secret creators nor a formal application process is required for trade secret protection.[15] It can be said that trade secret is the only meaningful protection which concerned with providing commercialization aspects by keeping the cultural and sociological values of the knowledge. Trade secrets law will help the weavers obtain the recognition that they possess. In this way, the personality enhancement will take place. The moral rights of the weavers will remain intact. The moral rights will contribute to the reputation of the weavers too. Trade secrets are a promising protection for traditional knowledge holders in comparison to other kinds of IPR laws. But the most important requirement, that is, the information should be confidential to qualify for a trade secret is questionable in matters of tra-

[14] Chinmaya Kumar Mohapatra and Amrita Mishra, 'Trade secret protection in India' (2020) 17 (6) Palarch's Journal of Archaeology of Egypt / Egyptology 5436 iavailable at: <https://archives.palarch.nl/index.php/jae/article/view/1813/1801> assessed 6 April 2022

[15] Id

ditional dresses of the Bodo tribe. Because the weaving technique is already known by many and once the information is publicly known, it no longer remains a secret but becomes a knowledge for all.[16]

Mr. Justice Vijender Jain in his speech during a seminar of Asia Pacific Jurist Association (APJA) on the topic "Safeguarding the Traditional Knowledge in India" held on 28th April 2008 at Delhi[17] said that "Traditional knowledge" is anopen–ended way to refer to tradition – based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names, and symbols; undisclosed information; and all other tradition – based innovations and creations resulting from intellectual activity." He further stated that the process and technique to create a TK may not be documented or recorded technically but that does not diminish its cultural value.

A regional policy has to be developed for the protection of indigenous knowledge related to biodiversity which includes agriculture, medicinal, and ecological-related knowledge; and also for the protection of other traditional knowledge relating to folklore. He also added that the current IPR system cannot protect traditional knowledge because it is designed to provide private ownership to the creator. Other reasons are that it is not for perpetuity and the criteria like novelty, industrial applicability, and various other requirements need to be fulfilled.

Conclusion and Suggestions

Many traditional knowledge advocates have tried to seek recognition and protection for it in several ways. Particularly several authors and writers have posed a concern stating the need to include traditional knowledge under existing IPR laws. Through this paper, it was investigated that the existing IP laws are not fit to provide inclusive protection to traditional knowledge. The reasons are that the criteria and requirements are technical and grant protection for a limited period of time. However, trade secrets could be one of the facets through which traditional knowledge could protect the items created traditionally.

Trade secret approach to traditional knowledge is a practical initiative to secure the rights of traditional weavers. Precisely trade secret grants protection to the owners against the unfair use of information, and misappropriation of confidentiality. Moreover, the TRIPS agreement and Paris Convention provides that the member states shall prepare to protect the creator of a particular thing that carries valuable information for business or occupation purpose. Hence, India as a country shall give consideration to the skill and labor invested by an individual to create a particular thing for its business. And if the creator is successfully able to prove that a reasonable attempt has been made to protect the secret of processing that thing then such creator shall be entitled to claim lawful damages. Therefore, India in par with Article 19(1)(g) of the Constitution of India should give opportunity to the Bodo weavers to flourish in trade and commerce by using traditional knowledge. Also, the right to livelihood which is an extended meaning under the jurisprudence of right to life under Art 21 of COI should be guaranteed to the Bodo handloom weavers.

Based on the above analysis the following suggestions can be made:

i. India must ensure effective legal remedies to protect the interest of the people who created or origi-

[16] N.S. Sreenivasulu (1st ed.), *Law Relating to Intellectual Property* (Partdridge Publishing) 2013.
[17] Mr. Justice Vijender Jain, Chief Justice, Punjab And Haryana High Court, Chandigarh, *'Safeguarding The Traditional Knowledge In India'* Asia Pacific Jurist Association (APJA).

nated an item by putting in their skill and labor.

ii. There is an immediate need to enact regulations so that India is adequately safeguarding trade secrets for fair competition in the market.

iii. As far as the existing traditional knowledge is concerned, trade secret is limited because the traditional weaving knowledge is already publicly available among Bodo people. In such a scenario trade secret law can merely facilitate the unauthorized exploitation of TK.

iv. Trade Secret is not a comprehensive one to address the problem of traditional knowledge holders.

v. Alternatively, local customary law is the best way for inclusive protection of the Bodo traditional clothing and also to ensure socio–legal justice for the weavers which can be brought into by the BTC administration in accordance with para 3 B of the VIth schedule of COI.

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Defining the Term "Investment" in the Realm of International Investment Law

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ABSTRACT
Even in contemporary times, a lot of international investment disputes have the primary question at issue of whether the transaction is an investment or not. Although most tribunals opine do not have a fixed definition for investment, the objective definition of investment has also been considered in various instances. In this article, we will explore both the subjective and objective definitions of investment as well as analyze the merits and demerits of the approaches by looking into various decisions that have been arrived at by various International Arbitration Tribunals.

KEYWORDS
Definition; Bilateral Investment Treaties; International Investments; International Law

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Introduction

Over the years, the parties entering into several Bilateral Investment Treaties (Hereinafter referred to as "BIT") have defined the term investment as per their own prudence. There is no single arbitral tribunal that has defined the term 'investment' so that the parties have the flexibility and autonomy to determine what they consider as investment and act accordingly. In a large number of investment disputes, the major issue revolves around whether a transaction can be considered an investment or not. In this article, the scholar will be exploring what the stance of the arbitral tribunals has been throughout the years when it had to state whether a transaction constituted an investment or not.

An Objective Definition of Investment

Article 25 of the ICSID ("International Centre for Settlement for Investment Disputes") convention clearly states that for a dispute to come under the ICSID jurisdiction the dispute shall directly arise out of an investment and the parties have to be signatories to ICSID.

The ICSID is an arbitration center that aims to facilitate international investment by resolving investment disputes between states and investors[1]. Throughout, scholars have seen that the drafters of various arbitration tribunals have refrained from defining the term investment primarily so that the parties have the flexibility and autonomy to define investment as per their own needs and requirements in the bilateral investment treaties they enter into. However, with time, the arbitrators realized that the lack of an objective definition was the need of the hour, without which, the parties can submit any dispute to the ICSID through their BITs irrespective of the subject matter.[2]

The exploration of the objective definition of "investment" was first done in ***Fedax v. Republic of Venezuela,***[3] In this case, the respondent stated Venezuela had refused to honour the promissory notes to the investor Fedax, claiming that there was no long-term flow of financial resources but the tribunal rejected that contention saying that the investment made by Fedax had the basic characteristics of an investment. Later, in the case of

[1] International Center for the Settlement of Investment Disputes Convention, Oct. 14, 1966, 17 U.S.T. 1270, 575 U.N.T.S. 159. (Hereinafter ICSID Convention).
[2] Alex Grabowski,' The Definition of Investment under the ICSID Convention: A Defense of Salini', [2014] PL 290.
[3] *Fedax N.V. v. The Republic of Venezuela* ICSID Case No. ARB/96/3.

Salini v. Morocco[4], the clear-cut test was laid down which mentioned that an investment has to meet the four criteria namely 1) Duration 2) Element of Risk 3) Contribution of money or assets 4) Contribution to the economic development of the host state. If we observe the cases that ICSID has taken up to date, we will come across several cases where the *Salini* test has been adopted and we will also observe many cases where the Salini test has been criticized and not adopted in its full sense.

Arguments in Favour of The Salini Test

Article 31 of the Vienna Convention for the Laws of Treaties states that the terms of every treaty should be interpreted as per its object and in the light of the circumstances it was entered into. The Salini test is in absolute compliance with the preamble of ICSID, which states that investment should be made to foster the economic development of the host state. At the same time, the Salini test had been followed for more than a decade and it is a settled precedent incorporating the preamble of the ICSID convention that ICSID can refer to ensure certainty[5] while dealing with investment disputes, and in the process, facilitate cross-border investment.

International bodies have the freedom to decide the amount of weightage they would like to give to precedents[6] as precedents do occupy an uneasy space in international law.[7] Many states actually value precedents in many of these cases because a settled precedent can give them an idea about how the litigation process would actually look in the future if they come across similar circumstances[8].

In the case of ***Joy Mining Machinery v. The Arab Republic,***[9] the Salini test was accepted completely. Joy Mining, a British Company was supposed to replace an existing mining system and build a new mining system. The dispute arose when both parties started blaming each other for the lack of equipment. Egypt deemed the transaction as a mere contract for sale whereas Joy Mining contended that the matter falls under ICSID jurisdiction since it satisfies all the four criteria of the Salini test. The tribunal sided with Joy Mining and upheld the Salini test. Even in the case of ***Jan de Nul N.V. and Dredging International N.V. v. Arab Republic of Egypt,***[10] the Salini test was referred to out of respect for the value of settled precedence, and the transaction was deemed as an investment in compliance with the Salini test.

In the case of ***Quiborax v. State of Bolivia,***[11] the fourth prong of the Salini test was heavily criticized and it was held that the first three criteria of the Salini test would be sufficient to constitute the objective definition of investment. However, there are two reasons for retaining the Salini test. Firstly, it is a well-settled and widely accepted precedence which faithfully complies with the preamble of the ICSID. Having a settled rule is highly beneficial for investors as they can predict the outcome of any dispute that may arise in the future and plan accordingly. There can be a counterargument that settling the law around *Quiborax* would work as well but that would give rise to a long period of uncertainty while the arbitra-

[4] *Salini Costruttori S.p.A. and Italstrade S.p.A. v. Kingdom of* Morocco ICSID Case No. ARB/00/4.
[5] ICSID Convention, supra note 1, at Preamble.
[6] Georg Nolte, 'Subsequent Practice as a Means of Interpretation in the Jurisprudence of the IVIO Appellate, Body, in The Law of Treaties Beyond The Vienna Convention,' [2011] PL 140.
[7] Sean D. Murphy, 'The Relevance of Subsequent Agreement and Subsequent Practice for the Interpretation of Treaties, in THEORIES AND SUBSEQUENT PRACTICE,' [2014], PL 84.
[8] Anthea Roberts, 'Power, and Persuasion in Investment Treaty interpretation,' [2010] PL 189.
[9] *Joy Mining Machinery Limited v. the Arab Republic of Egypt* ICSID Case No. ARB/03/11.
[10] *Jan de Nul N.V. and Dredging International N.V. v. Arab Republic of Egypt* ICSID Case No. ARB/04/13.
[11] *Quiborax S.A., Non-Metallic Minerals S.A. and Allan FoskKaplún v. Plurinational State of Bolivia* ICSID Case No. ARB/06/2.

tors shift from one test to another and at the same time, it would weaken the idea of having a settled precedent.

Secondly, the UN charter contains the provision of sovereign equality[12] that gives every state the sovereignty to govern their own economic affairs to facilitate economic development and all countries have equal rights to control whatever is going on within their borders[13]. As this solidarity is primarily for economic development, it automatically supports the fourth criterion of the *Salini* test.

When comparing the Quiborax and Salini judgments, it is clear that the Salini test completely adopts the Preamble's language regarding fostering the host state's economic development. In contrast, the Quiborax judgment, while acknowledging the Preamble's language, does not operate in accordance with the Preamble's stated goal of fostering the host state's economic development.

In ***MSH v. Malaysia,***[14] Malaysian Historical Salvors excavated a significant amount of Chinese porcelain from the Strait of Malacca. This porcelain was auctioned and the company claimed that it did not receive the promised share of profits and went to ICSID to seek arbitration. ICSID, after looking at the facts and circumstances, concluded that there was no fixed duration of the contract nor did the excavation bring in any contribution to the economy of the host state. Hence, as per the Salini test, as the transaction was not an investment but rather a historical excavation, the tribunal did not feel that it was necessary to refer to the UK-Malayasia BIT.

In the case of ***Biwater v. Tanzania,***[15] Tanzania contended that the transaction did not meet the criteria laid down in the Salini test and hence, does not have any jurisdiction under ICSID. However, ICSID rejected Tanzania's contention by saying that although the Salini test was a settled precedent, ICSID was not bound by it. In this scenario, ICSID gave jurisdiction to Biwater by referring to the definition of investment in the Bilateral Investment treaty that the parties had entered into.

Criticism of the Salini Test

The last requirement in the Salini test, which states the contribution to the host state's economy has been the most controversial. In the case of ***Victor Casado v., the Republic of Chile,***[16] the tribunals as economic development of the host state is a consequence of an investment and not a characteristic of investment, the fourth criterion of Salini was not taken into consideration. In one of the cases[17], it was held that the criteria mentioned in the Salini test are just characteristics of an investment which may help in excluding extreme cases that have no relation with investment and not compulsory legal requirements that can beat the broad and flexible definition of investment. In the ***Phoenix*** case,[18] the tribunals felt that the criteria mentioned in the Salini test weren't sufficient. The tribunal in this case added that the bona fide nature of investment and compliance with the domestic laws are also mandatory conditions to constitute an investment. This approach is only taken when there is an abuse of the process or any illegality involved in the process.

[12] UN Charter art. 2.
[13] Hans Kelsen, 'The Principle of Sovereign Equality of States as a Basis for International Organization', [1944] PL 209.
[14] *Malaysian Historical Salvors, SDN, BHD v. Malaysia*- ICSID Case No. ARB/05/10
[15] *Biwater Gauff (Tanzania) Ltd. v. United Republic of Tanzania* ICSID Case No. ARB/05/22
[16] *Victor Pey Casado and President Allende Foundation v. Republic of Chile* ICSID Case No. ARB/98/2.
[17] *Philip Morris Brand Sàrl (Switzerland), and Abal Hermanos S.A. (Uruguay) v. Oriental Republic of Uruguay* ICSID Case No. ARB/10/7.
[18] *Phoenix Action Limited v. Czech Republic* Award ICSID Case No ARB/06/5, IIC 367 (2009).

We have to keep two things in mind while we are dealing with the fourth condition of the state, which is the economic development of the host state.

Firstly, economic development and investment are in no way related to each other or dependent on each other and secondly, the investor can only invest keeping economic development as the primary goal. As economic development depends on a lot of factors and not just the investment, it is certainly not in the hands of the investor.

Hence, it is unfair for the investor to include the economic development of the host state, as a criterion for investment, something which the investor does not have control over in the first place. This is the primary reason why we can see a lot of cases that have chosen not to follow the *Salini* test.

- ***Saba Flakes v. Republic of Turkey***[19]
  In this case, the Turkish Government had frozen the shares of the Dutch investor Flakes and had sold those shares, which Flakes claimed to be a gross violation of the BIT. When this matter went for arbitration, the tribunal did not consider the fourth criterion and held that the fulfillment of the first three criteria of the Salini test was enough to constitute an investment.

- ***LESI S.p.A. Astaldi S.p.A. v. People's Democratic Republic of Algeria***[20]
  In this case, the company was involved in the construction of a dam project in which the Algerian government had been creating difficulties time and again. When this dispute went for arbitration, the tribunal held that the fourth criterion was already covered in the first three criteria of the Salini test and need not be established separately.

Hence, looking at the following case, we can conclude that ICSID, although gives prime importance to the *Salini* test, might not refer to it in every case. ICSID will observe the contention of the parties and the facts and circumstances in each case and then decide if it entirely wants to go by the *Salini* test, just by the first three criteria of the *Salini* test, or not refer to the test at all, and go completely by the definition given in the BIT.[21]

Definition of Investment as per the Non-ICSID Tribunals

In the case of ***Romak v. State of Uzbekistan,***[22] there was a contract for a food grains supply between Romak and the Uzbekistan Government. The contract was not honored by the State of Uzbekistan. Romak went to NAFTA to seek arbitration and the arbitral award was in favor of Romak. However, the Uzbekistan Government refused to execute the Arbitral award.

Romak again had to move the Permanent Court of Arbitration (hereinafter referred to as 'PCA') to seek remedy. The Permanent Court of Arbitration found that the definition in the BIT was ambiguous and hence, took the approach of travaux preparatoiris. The PCA referred to the history of the parties to find out why the parties had entered into the treaty in the first place. The PCA found out that while entering into the BIT, Romak had also entered into a trade agreement with the state of Uzbekistan, thereby establishing the fact that Romak wanted to enter into a trade agreement with Uzbekistan and it was not an investment. Hence, by taking the approach of

[19] *Saba Fakes v. Republic of Turkey* ICSID Case No. ARB/07/20.
[20] *L.E.S.I. S.p.A. and ASTALDI S.p.A. v. RépubliqueAlgérienneDémocratique et Populaire* ICSID Case No. ARB/05/3.
[21] Acres Law, 'The Salini Test in ICSID Arbitration,' [2018] PL 05.
[22] Romak S.A. (Switzerland) v. The Republic of Uzbekistan, UNCITRAL PCA Case No. AA280.

travaux preparations, the PCA concluded that Roman had entered into a trade agreement and not an investment, and hence, Romak did not have jurisdiction.

While getting into foreign investment, India adopted the broad asset-based definition that was adopted by the United Kingdom. In ***Flemingo Duty-Free v. the Republic of Poland,***[23] Flemingo had invested in a duty-free shop in the Chopin airport through a subsidiary. When the dispute arose, Poland claimed that as Flemingo held an indirect shareholding, it could not be regarded as an investment. However, as the India-Poland BIT had a broad definition of investment, the PCA tribunal regarded indirect shareholding as an investment.

In the case of ***White Industries v. The Republic of India,***[24] White Industries, an Australian Company had invested in the coal-mine sector. When a dispute arose, White Industries had to suffer huge losses in the nine years of seeking a remedy from the domestic courts of India. When the matter went to the tribunal, India contended that investment needed resource commitment and an assumption of risk, which the transaction with the White Industries lacked. As UNICTRAL was a non-ICSID tribunal, it interpreted the broad asset-based definition given in the BIT and regarded the transaction as an investment due to which India had to suffer a loss worth billions of dollars.

Being a developing nation or a capital-importing country, India must look for an enterprise-based definition instead of an asset-based definition to protect its interest and unfortunately, India had to learn it the hard way. India is also not a member of ICSID. Hence, it cannot take up any matter for arbitration to ICSID. As ICSID refers to the *Salini* test many times, there could have been a possibility that ICSIID referred to the objective criteria laid in *Salini* and protected India's interest. As India cannot go to ICSID, the non-ICSID tribunals will refer to the subjective definition in the BITs. Hence, India must always look for an exhaustive and enterprise-based definition in the BIT it is entering to play on the safer side.

Conclusion

To conclude, the ICSID tribunal follows both the subjective definition of investment as well as the objective definition of investment. As ICSID is not bound by any sort of precedent, it is free to refer to anything and state its opinion whenever it has to answer whether a particular transaction can be constituted as an investment or not. ICSID might refer to the Salini test, with or without taking into account the fourth prong, or may just go by the definition of investment that is present in the BIT. However, non-ICSID tribunals always prefer a subjective approach[25], and hence they refer to the definition of investment that is mentioned in the BIT that both parties have entered into. In case the definition in the BIT is too vague or ambiguous, the tribunals look at travaux repertoires, which is the mindset of the parties while entering into a treaty. A broad asset-based definition is convenient for capital-exporting countries or foreign investors whereas developing countries/capital-importing countries must look for an enterprise-based definition of investment and opt for an exhaustive approach to be on the safer side.

[23] FlemingoDutyFree Shop Private Limited v. Republic of Poland PCA Case No. 2014-11.
[24] White Industries Australia Ltd v India IIC 529 (2011).
[25] Mahnaz Mallick,'Definition of Investment in International Investment Agreements,' [2009] PL 04.

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A Comparative Analysis of the Applicability of the Madrid Protocol - with Reference to India and the United States of America

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ABSTRACT
In the contemporary business world, the term 'diplomacy' instantly connotes itself 'International Trade Diplomacy'. No trade is feasible without having a defined set of standards that yield powerful results. Intellectual Property is a recognized sub-set of Business Law. Therefore, the protection of these distinguished intangible creations of the human mind calls for immediate protection in the era of the alarming increase of unscrupulous activities.
This Article provides a Comparative Analysis of the Indian Trademark Act and the US Lanham Act, focusing on their implications in the light of the Madrid Protocol. Both Acts offer protection to trademarks, yet they diverge in several aspects. The study examines the introduction of the Protocol in its respective domains, registration process, and enforcement mechanisms outlined in Acts, highlighting similarities and differences. This analysis also underscores the divergent approaches taken by the two legal systems and underscores the importance of aligning them with the provisions of the Madrid Protocol for seamless international trademark registration. The introduction of a new chapter, Chapter IVA, in the Indian Trademark(Amendment) Bill, 2007reveals a deliberate effort to extend trademark protection beyond India's borders. The United States embraced the Madrid Protocol on November 2, 2003, marking an epochal shift in U.S. trademark law.

KEYWORDS
Indian Trademark Act; 1999 ; Lanham Act; 1946; Madrid Protocol; International Registration; Intellectual Property Law

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Introduction

The dynamic trademark protection landscape in India is intricately linked to global accords and the nation's increasing focus on intellectual property rights. Even if there has been progress, there are still issues, such as application processing delays. It is obvious that a simplified, effective system that supports trademark protection and conforms to international standards is required. To understand the issues in the legal framework in India on Intellectual Property, a comparative analysis with such framework of United States has been made in this article.

The major objective of this article is to highlight the synergies and the differences between the IP frameworks of both the nations to figure out the possible changes required in the Indian framework for smooth regulation of the IP industry.

The Indian Perspective

The Trade Mark (Amendment) Bill, 2007

The Trade Mark (Amendment) Bill was proposed by the legislative bodies of India in the year 2007. This Bill introduced a new chapter, Chapter IVA, to amend the laws pertaining to Trade Mark to protect them in other countries.[1] The aforementioned Bill was referred to the Standing Committee on Commerce, headed by the chairman, Dr. Murli Manohar Joshi, on October 1, 2007.

[1] The Trademarks (Amendment) Bill 2009 - Implementing the Madrid Protocol, Rajya Sabha passes the Trademark Amendment Bill, 2009 after a spirited debate, SPICYIP, *available at:* <https://spicyip.com/2010/08/rajya-sabha-passes-trademark-amendment.html> accessed 19 August 2023.

This Bill introduced the following major amendments:[2]

1. A period of 18 months has been prescribed to register the trademarks.
2. The Registrar of Trade Marks is the Controller-General of Patents, Designs, and Trade Marks. The Registrar is appointed by the Central Government along with any other officers deemed fit. The Bill authorizes the Registrar to examine international applications originating from India in addition to those received from the International Bureau and to maintain a record of international registrations.
3. In such a case, the registered proprietor, also known as the applicant, may make an international application on a prescribed form. If the person possesses an international registration, he may make an international application in the prescribed form for such registration to any other contracting party.
4. The Bill also aims to reduce the time period for filing of notice of opposition to applications to a time period of three months.
5. The Bill simplifies the provision related to the transfer of ownership of trademarks by assignment or transmission.

Enabling India's accession to the Madrid Protocol:

India ratified the Madrid Protocol on July 8, 2013. As the Madrid Protocol System allows its applicants to file a single international application, thus making it cost-effective, the Trade Marks (Amendment) Act 2010 and the Trade Marks (Amendment) Rules, 2013 were enacted to enable India to accede to the Madrid Protocol for the International Registration of Marks at WIPO. This brings the total number of members to 90.

Glancing at the number of applications from a perfunctory perspective, trademark applications until 2009 provided the total number of applications filed to 1.9 million.[3]From 2009 to 2020, the number of applications reached 4.75 million.[4]

This amendment brought serious changes to improve the functioning of the Trademark Registry. All applications received must be disposed of within a period of 12 months. However, the Protocol allowed parties to extend this timeline by up to 18 months and India exercised this option at the time of accession. Nonetheless, India's administrative and bureaucratic capabilities at that time made processing applications in any timeline below 18 months seem impossible. For instance, under the Protocol, trademarks in India were given protection for ten years from the date of filing, but the Registry's situation made the process of registering trademarks take more than a period of ten years.

This process has gotten faster in the years since then; however, there still exist many applications that are not disposed of within the 18 months prescribed under the Indian law and the Madrid protocol.

The National Data Sharing and Accessibility Policy, 2012 (NDSAP) requires government authorities to disclose all 'sharable non-sensitive' data in a machine-readable format.[5]Although it doesn't define the term "sensitive data", the same can be interpreted by various rules and statutes.[6]

[2] Department related Parliamentary Standing Committee on Commerce, Eighty fourth Report on Trade Marks (Amendment) Bill, 2007.

[3] Custom Dataset.
[4] Ibid.
[5] Objective Clause, National Data Sharing and Accessibility Policy (2012), *available at:* <http://geoportal.mp.gov.in/geoportal/Content/Policies/NDSAP_2012.pd>, accessed 19 August 2023.
[6] Clause 2.10, Objective Clause, National Data Sharing and Accessibility Policy (2012), *available at:* <http://

The US Perspective

The United States initially refrained from joining the Madrid Agreement due to various concerns. Chief among them was the requirement for a basic registration in the home country before seeking international protection. This requirement clashed with the US trademark registration process which includes rigorous examination and prolonged duration. Additionally, apprehensions arose from the short timeframes provided for trademark offices to refuse registration under the Madrid Agreement. These concerns collectively discouraged US participation in the protocol.

In 2003, a significant transformation occurred when the United States acceded to the Madrid Protocol. This marked a pivotal moment in US trademark history, reshaping the landscape of international trademark protection. The Madrid Protocol was incorporated into US law, offering US trademark owners an unprecedented avenue to access international registration benefits. The effective date of this accession heralded a new era, one where US trademark owners could extend their protection globally with greater ease.

A crucial facet of the Madrid Protocol is the concept of extending trademark protection to the United States. This extension hinges on the principle of "bona fide intention to use" the mark in commerce. The protocol offers trademark owners the unique advantage of securing protection for their marks in the US without the prerequisite of prior usage in US commerce.

Trademark owners have responsibilities for the maintenance and renewal of their international registration. This involves renewing their registration by submitting requisite fees to WIPO. Furthermore, trademark owners must submit affidavits of use and pay stipulated fees within specified timeframes to ensure the on-going validity of their registrations.

The United States Patent and Trademark Office (USPTO) examines international applications originating from the US to ensure that their contents correspond with the basic application or registration. Once certified, the application is transmitted to the World Intellectual Property Organization (WIPO), which reviews the filing requirements and fee payments.

When a trademark owner uses the Madrid Protocol to extend protection to the United States, the Lanham Act's[7] provisions come into play. The US Patent and Trademark Office (USPTO) examines the extension request to ensure it meets the requirements of the Lanham Act, including aspects like genuine intention to use the mark in commerce.

Comparative Analysis

The Indian Trademark Act, of 1999 and the US Lanham Act, of 1946 have taken steps to align with the Madrid Protocol's framework for international trademark protection. This part provides a detailed comparison between the Indian Trademark Act and the US Lanham Act, particularly in the context of how they relate to the Madrid Protocol.

1. Process of Registration:

In India, the process begins with the submission of a trademark application. The registry conducts a preliminary examination to check if the application meets the formal requirements. Then the mark is published in the journal and remains open for public scrutiny for four months. During this period, any party can file objections against the mark. If objections are raised, the Registry serves a notice to

geoportal.mp.gov.in/geoportal/Content/Policies/NDSAP_2012.pdf>, accessed 19 August 2023.

[7] Federal Trademark Act of 1946, as amended (the "Lanham Act"), 15 U.S.C. §§ 1051 et seq. The amendments appear in §§ 60 et seq., 15 U.S.C. § 1141 note.

the applicant to respond within three months. The applicant has two months to provide a counterstatement. The registry serves the counterstatement to the opposing party within two months. The opposing party has two months to submit a response with evidence. There may be a series of responses and counter-responses, including "evidence in reply by the party" and "further evidence". Both the parties are granted an additional month for each step. If both parties take the maximum time at each step, the entire process can exceed 15 months, which is longer than the prescribed 12-month period. Additionally, the Registrar has the option to grant further time beyond the rules.

In the US, the Lanham Act, specifically Title Xll, adds provisions that align with the Madrid Protocol. The act requires that international applications based on a US trademark application be filed by a US national or entity with a real commercial establishment in the US. Objections shall be raised against a Mark within a period of one month. The USPTO examines the international application to clarify its correspondence with the basic application or registration. After certification, The USPTO transmits the application to WIPO, which reviews it for meeting filling requirements and payment of fees. If requirements are met, WIPO issues an international registration, publishes it in the WIPO Gazette, sends a certificate to the holder, and notifies designated Contracting Parties. The process in Lanham Act, 1946is streamlined, allowing for a more efficient examination and registration through the Madrid Protocol framework.

The Indian process involves multiple stages, objections, and counter-responses, leading to a potentially lengthy process. In India, the national examination by the Indian Trademark Office occurs before the application is forwarded to WIPO. In the US, the USPTO examination occurs after WIPO's certification.

2. Effect of Non-Use:

In India, the concept of 'use' is given a broader interpretation. Mere advertisement of goods and services can be considered as a sufficient use, even if there are no real sales. India's broader interpretation allows for a wide range of activities to demonstrate use, including advertising. In India, the non-use period is calculated from the date on which the trademark is entered into the register. If the trademark has not been in bona fide use for five years from that date, an application for removal can be filed.

In the case of ***Express Bottlers Services Pvt Ltd v. Pepsi Inc***,[8] the Court acknowledged that sales to a limited or restricted market can be considered "use" under certain circumstances and also suggested that the interpretation of terms like "us", "public"," goodwill" and "market" should consider the prevailing international trade and import policy of the country. In ***J N Nicholas Ltd v Rose and Thistle***,[9] Indian Courts interpreted the concept of "use" in a trademark context. The Court ruled that "use" doesn't strictly require actual physical sales, it shall encompass activities like advertisement, even in cases where the goods themselves may not yet exist.

Section 2(1) of the Indian Trademark Act, 1999 clearly defines a "registered trademark" as a trademark actually on the register and remaining in force. In the case of ***M J Exports Pvt Ltd Bombay v Sunkist Growers***,[10] it was established that under Sections 46(1) and 46(3) of the Indian Trademarks Act, registered proprietors of a trademark were afforded protection when non-use of the trademark was attributed to specific circumstances such as the import policy, import control, and tariff

[8] Express Bottlers Services Pvt Ltd v Pepsi Inc [1989] PTC 14 (Cal).
[9] J N Nicholas Ltd v Rose and Thistle [1993] (II) CHN 395 (Cal) (DB).
[10] M J Exports Pvt Ltd Bombay v Sunkist Growers, Los Angeles [1991] PTC 81 (Reg) (Cal).

duty set by the Indian government. India's interpretation may lead to a broader range of marks being maintained in registration, even if they are not used in a typical commercial sense.

In the US, the Lanham Act's interpretation of "use" is stricter. Courts have ruled that a mere token of use is not sufficient; there needs to be genuine commercial use to maintain the trademark's registration. The US's stricter interpretation allows for a wide range of activities to demonstrate use, including advertising. Article 9 of the Inter-American Convention of 1929 is in force in the US. It states that when a trademark application is rejected due to a prior registration, such prior registration may be canceled if the mark has been "abandoned". In the US, the three-year period of non-use which serves as prima facie evidence of abandonment does not begin until the USPTO registration has been issued.[11] In the US, Section 45 of the Lanham Act, 1946 provides that a mark shall be deemed to be abandoned when its use has been discontinued with intent not to resume such use. Lanham Act, 1946 does not recognize token use of trademark. Its stricter stance aims to ensure that trademarks on the register reflect actual commercial activity, reducing clutter and promoting fair competition.

Liechtenstein-based distilled spirits company, Lodestar received protection of its trademarks in the year 2011 for its sale of products namely, whiskey, rum, and other distilled spirits. It filed its trademark infringement claims against Bacardi for its use of the 'Bacardi Untameable' mark in its advertising campaign for rum in the year 2013. The Madrid Protocol protects the owners of trademarks in the US without first requiring the use of the mark in the US domain, under which Lodestar claimed its rights over the 'Untamed' mark. Thus, the question of which entity has prior trademark rights arose. To answer the same, the Ninth Circuit analysed whether the former, Lodestar's use of its trade dealings was 'bona fide' in nature. When this question was answered affirmatively, the Court decided the case in favour of Lodestar as even though Lodestar had not used its mark in the US domain first, being the senior user, it reserved itself a right of priority based on its application under the Madrid Protocol and its prior use of the 'Untamed' mark in its home country. [12]

3. Extension of protection:

The Madrid Protocol allows international trademark registrations to be extended to India. Similar to regional registrations, renewal occurs every 10 years. Reminders are sent six months before renewal. Changes in the holder's information or goods/services can be easily done, affecting multiple contracting parties with a single step and fee. The Madrid protocol doesn't harmonize trademark laws. Each country, including India, applies its national law to extension requests. Filing an extension request appropriately is seen as a constructive use of the mark from the registration date or priority date. This means that the actual commercial use before obtaining an extension certificate is not mandatory in India.

Renewal and changes in the US are governed by specific procedures, including the submission of affidavits of use and appropriate fees at different intervals. The Lanham Act, 1946provides provisions for renewal and changes in section 9. It states that registrations can be renewed in increments of 10 years. Under section 66(a) of the Lanham Act, requests for extension of protection to the US are addressed. It mandates that the request must include a declaration of bona fide intention to use the mark in commerce. Section 71 of the Lanham Act, 1946 outlines maintenance requirements for US registrations. If Section

[11] Kera David J & Davis Theodore H, Jr [2004] (1) 190.

[12] Lodestar Anstalt v. Bacardi & Company Limited No. 19-55864 D.C. No. 2:16-cv-06411-CAS-FFM.

71 - Declaration of Use - satisfies all legal requirements, then the USPTO would accept and the extension of protection in the United States will be maintained. Affirmative actions include filing an affidavit of use and paying appropriate fees. The protocol doesn't harmonize laws, and each country applies its national law to evaluate extension requests.

Conclusion and Suggestions

The point that needs immediate focus is the reduction of the timeline of filing of opposition gradually, from a period of four months to three months, and with time, 90 days. The delay caused by the rules and procedures of the Registry increases the time taken to process an application. Although the Trademark Registry's official portal provides access to updated data, it does not provide a bulk data set to the general public for analysis. There exist more than 4.75 million records and each record can only be accessed after solving a complicated captcha. The Registry's limited operational capacity and staff have restricted it from fully implementing the Madrid Protocol.

In conclusion, the scope for Intellectual Property in India is now higher than ever, making it an emerging sector. As a result, protecting these intangible creations is of utmost importance. Thus, aiming to eliminate the hurdles faced by the owner of trademarks in their efforts to protect their creations must be made the first priority of the Trademark Registry.

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Intellectual Property Awareness and Drug Control: A Conundrum in Contemporary Legal Landscape

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ABSTRACT
The intersection of intellectual property rights and drug control has become a pressing concern within the contemporary legal landscape. This conundrum arises from the need to strike a delicate balance between safeguarding the rights of innovators and fostering public health and safety. This article explores the complex legal issues surrounding intellectual property in the pharmaceutical industry, particularly in relation to drug control. By examining the conflict that arises between patent rights and access to affordable medicines, as well as the implications for global public health, this article aims to shed light on the challenges faced by legal practitioners and policymakers in resolving this intricate and multidimensional dilemma.

KEYWORDS
Drug Control; Intellectual Property; Legal Landscape; Pharmaceutical Industry

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Introduction

In today's globalized and interconnected world, the nexus between intellectual property rights[1] and drug control presents an intricate legal challenge. On one hand, intellectual property rights serve as a cornerstone of innovation and economic growth, incentivizing individuals and companies to develop groundbreaking drugs that can save lives. On the other hand drug control measures seek to safeguard public health and curb the proliferation of illicit narcotics, often necessitating access to affordable treatments. This article explores the complexities of this conundrum and the legal framework that addresses the delicate balance between protecting intellectual property rights and ensuring effective drug control. In the face of these polarizing interests, this article aims to critically analyze the legal complexities involved and propose potential solutions to reconcile Intellectual Property awareness and drug control. This conundrum presents complex challenges for policymakers, legislators, and legal practitioners alike as Intellectual Property protection is essential for fostering public health and safety. This legal article aims to explore the intricate balance between these two areas and the need for a comprehensive approach to address the challenges arising within this domain.

Intellectual Property Rights

Intellectual Property Rights provide a foundation for fostering innovation and creativity in the pharmaceutical industry.[2] Patents, for instance, grant exclusive rights to inventors over their new drug discoveries for a limited period of time. This exclusivity serves as an incentive for pharmaceutical companies to invest significant resources into developing novel drugs, leading to groundbreaking medical breakthroughs that benefit society. Intellectual property rights, including patents, trademarks, copyrights, and trade secrets form the bedrock of innovation and serve as powerful tools to reward and protect creators' ingenuity. These legal mechanisms encourage investment in research and development, incentivize technological breakthroughs, and foster economic growth. In the pharmaceutical industry, exclusive rights over their novel discoveries are protected for a limited period. This exclusivity allows pharmaceutical com-

[1] IP Office, A Guide to compulsory Licencing of Patent (2010) *available at:* <https://www.gov .Uk/government /publications/guidance-on-compulsory-licensing-of-patent> accessed 1 April 2023.

[2] Sarah Johson, The impact of intellectual property rights on pharmaceutical innovation (Oxford University Press 2021)78.

panies to recoup their investment, funding research and development endeavors.

The Importance of Drug Control for Public Health

Simultaneously, drug control plays a vital role in safeguarding public health. Governments around the world have implemented various measures to ensure the availability of affordable medications, particularly for vulnerable populations. Such measures include compulsory licensing, which permits the production and sale of generic equivalents of patented drugs, thereby enabling access to life-saving treatments at lower costs.

In a society governed by the rule of law, the concept of drug control holds significance when it comes to protecting and promoting public health. The interplay between drug regulation, law enforcement measures, and healthcare policies establishes a comprehensive framework aimed at addressing the multifaceted challenge posed by drug use and abuse. The importance of drug control in bolstering public health cannot be overstated. A comprehensive legal framework, combined with thoughtful healthcare policies, enables societies to address the individual and societal harms inflicted by drug abuse.

By addressing prevention, treatment, rehabilitation, and enforcement, governments can strive toward a healthier , safer , and more resilient society. As legal professionals, we play a vital role in advocating for stringent drug control measures to protect the well-being of our communities.

Legal Tensions and Challenges

The conflict between intellectual property rights and drug control arises from the inherent tension between incentivizing innovation and promoting affordable access to essential medicines. Pharmaceutical companies argue that stringent IP protection is necessary to recoup research and developing costs and maintain a thriving industry that drives medical progress. Conversely, proponents of drug control initiatives contend that strict IP protection impedes access to necessary medications, depriving individuals of their rights to health.

The legal profession thrives on these challenges, as each case presents a unique opportunity to untangle legal knots, carve new legal precedents, and ensure that justice is served for all parties involved. Despite the inherent difficulties, legal tension provides the impetus for growth and innovation within the legal profession, pushing lawyers to constantly adapt, refine their skills, and find creative solutions, ultimately contributing to the development of a robust and just legal system that safeguards the rights and aspiration of society as a whole. Moreover, the issues of parallel imports complicate this conundrum. Parallel imports involve the importation of affordable drugs from countries where they are sold at lower prices into jurisdictions with higher prices due to exclusive patent protections. While parallel imports can enhance access to medicines, they may also undermine the profitability of patent holders and reduce incentives for future research investments.

Proposing Potential Solution

Reconciling intellectual property awareness and drug control necessitates a nuanced and balanced approach. One potential solution is to implement flexibilities within the existing IP[3] framework, such as compulsory licensing and patent pooling. These mechanisms grant the government the authority to license patented drugs to generic manufacturers or consolidate patents, respectively, thereby facili-

[3] Trade –Related Aspects of Intellectual Property Rights (adopted on 15 April 1994) Marrakesh Agreement Establishing the world Trade Organization ,Annex 1C, Art 31.

tating affordable access without completely dismantling intellectual property rights. Additionally, legislative reforms can play a crucial role in addressing legal tensions, ensuring that laws are clear, balanced, and reflective of the evolving needs of society. By conducting thorough research, engaging in robust public consultations, and collaborating with legal scholars, policymakers can develop legislation that strikes a delicate balance between competing interests, upholds constitutional principles, and supports the administration of justice. Moreover, legal professionals can actively promote education and awareness campaigns to enhance legal literacy among citizens, empowering them to understand their rights, responsibilities, and avenues for seeking redress.

Furthermore, fostering international collaboration and regulatory harmonization can help address challenges associated with parallel imports. Synchronized efforts among countries to align patent laws and pricing regulations can strike a balance between intellectual property protection and reasonable drug pricing, thus promoting widespread access to medicines.

International Agreement and IP

Intellectual property rights are protected and governed by various international agreements negotiated among countries. These agreements establish minimum standards and rules for the protection and enforcement of IP across borders. For instance, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), administered by the World Trade Organization (WTO), sets out comprehensive standards for the protection of patents, copyrights, trademarks, and other IP rights. Such agreements play a crucial role in promoting global harmonization, fostering innovation, and facilitating international trade by providing a framework for the protection and utilization of IP rights on a global scale.

IP Enforcement in the Pharmaceutical Industry

IP enforcement in the pharmaceutical industry plays a crucial role in incentivizing innovation and ensuring the availability of safe and effective medicines. Pharmaceutical companies heavily rely on intellectual property rights, particularly patents, to protect their investments in research and development and gain exclusivity over their innovative drugs. These rights enable them to prevent others from manufacturing, selling, or using their patented inventions without authorization. However, IP enforcement in the pharmaceutical sector can be complex and subject to challenges. The high stakes involved, including the need to strike a balance between protecting IP rights and promoting access to affordable medications, have given rise to ongoing discussions on various forums, including the World Intellectual Property Organization (WIPO), aimed at addressing the nuances and challenges associated with effective IP enforcement in the pharmaceutical industry[4].

Cybersecurity Concerns in Protecting Pharmaceutical IP

Cybersecurity concerns play a significant role in protecting the intellectual property (IP) of pharmaceutical companies. With the increasing digitization of information and the reliance on technology for research, development, and distribution, pharmaceutical companies face the risk of cyber-attacks aimed at stealing their valuable IP. These attacks can result in the loss of trade secrets, proprietary formulas, and confidential patent data, compromising the competitive advantage of these companies and potentially leading to financial and reputational damage. Implementing robust cyber

[4] World Intellectual Property Organization , "Pharmaceuticals and Intellectual Property "(WIPO ,2019).

security measures, such as firewalls, encryption, and employee training, is crucial for safeguarding pharmaceutical IP and ensuring the integrity of the industry as a whole.[5]

Ethical Dimensions of IP in Drug Control

The ethical dimensions surrounding intellectual property (IP) in drug control pose complex considerations. While IP protections serve as incentives for pharmaceutical companies to invest in research and development, they can also impede access to affordable medicines, especially in developing countries. The high prices of patented drugs may limit access to essential medications for vulnerable populations, raising questions about fairness and equity. Moreover, strict IP regulations can hinder the production of generic drugs, which are often more affordable and accessible, exacerbating healthcare disparities Balancing the protection of IP rights with the need for public health and affordable access to medicines requires ethical frameworks that prioritize the well-being of individuals and communities over commercial interests.

The Conundrum

The conundrum lies in reconciling the stark difference between IP rights and drug control measures. Intellectual property rights incentivize pharmaceutical companies to invest in costly research and development, ensuring the discovery of innovative drugs that improve public health and save lives. However, the exclusivity granted by patents can impede access to life-saving medications and contribute to soaring healthcare costs. Conversely, drug control measures prioritize public health and safety by imposing a regulatory framework designed to prevent the diversion, abuse, and, illegal trade of controlled substances. In doing so, these measures may restrict the availability of certain drugs and curtail the ability of patent holders to fully exploit their IP rights.

Future Outlook

The future outlook regarding intellectual property (IP) awareness and drug control presents both challenges and opportunities. Increased awareness of the ethical dimensions surrounding IP in drug control is crucial[6]. This includes recognizing the impact of IP on access to affordable medicines and the potential for healthcare disparities.[7] As public consciousness grows, there is a need to balance the protection of IP rights with public health and equitable access to medications. Policy frameworks that prioritize the well-being of individuals and communities over commercial interests will be essential. The future holds promise for addressing these ethical concerns. International agreements, such as the World Trade Organization's Doha Declaration on the TRIPS Agreement and Public Health, have acknowledged the importance of access to medicines and the flexibility in intellectual property rights. Continued dialogue and collaboration among various stakeholders, including pharmaceutical companies, governments, non-governmental organizations, and civil society, will be crucial in finding sustainable solutions. Improving IP awareness and education among healthcare professionals and the public is necessary to foster a more informed debate on drug control and access to medicines. This includes increasing transparency in the patent system and promoting dialogue on the social implications of IP protections. Additionally, promoting research and development models that prioritize public health needs, such as open innovation and

[5] " Cyber Security of the Health Sector : An Examination of the Cyber Threat Landscape and Industry Responses "by A. Chen , C .Seifert ,and B. Pogue from 2017.

[6] Moore, R., Minari , J., Richter, B., &Sellbon , P. (2020). Ethics and IP in Global Drug Development.

[7] World health Organization .(2020) .Essential Medicines and Health Product .IPR . Retrieved from *available at:* <https://www.who.int/medicines/area/policy/intellectual_property/en/.> accessed on June 10, 2023.

public-private partnerships, can contribute to more equitable access to medicines.

Conclusion

Navigating the interplay between intellectual property awareness and drug control presents formidable challenges for contemporary legal systems worldwide. Balancing the need for incentivizing innovation and ensuring affordable access to life –saving medications[8] requires a multi-faceted approach. By embracing flexibility within the IP Framework, fostering international collaboration, and embracing innovative solutions, we can aspire to harmonize these seemingly conflicting interests, ultimately paving the way for a more equitable and sustainable future. Striking a delicate balance between these two realms is crucial to ensure that essential medicines are accessible affordable, and available to those who need them. By examining the legal complexities, exploring possible solutions, and fostering increased collaboration, it is possible to navigate this conundrum and establish a legal framework that harmonizes intellectual property rights with drug control objectives in the best interest of society as a whole.

[8] Smith ,J., "Access to Medicines and Intellectual Property", Journal of law and Medicines ,45 (2)(2019) 235-254.

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The Effectiveness of Indian Banking Ombudsman on Its Customers

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ABSTRACT
In India, the Banking Ombudsman was first established in the year 1995 through a scheme that was subsequently amended two times, in 2002 and 2006. Since 2006 the Ombudsman has been given a new dimension and shape for efficient functioning in solving banking disputes arising during banking transactions with the customers amicably and without resorting to adversarial systems of dispute settlement. However, with the change of time, several new issues emerge that demand changes in every existing system for which all such established systems need to adjust to such changing situations. Similarly, changes had been made in the Banking Ombudsman Schemes from time to time to adjust to such changes. This paper will therefore try to analyze the evolution of the Banking Ombudsman System for addressing the grievances of customers arising out of banking transactions in India.

KEYWORDS
Amicable Settlement; Banks; Grievances; Ombudsman; and Reserve Bank of India

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Introduction

In general terms, an Ombudsman is an individual who has been selected by an association to address the complaints or grievances in respect of the association. Through an ombudsman, the organization tries to solve the complaints or address the grievances in respect of that association without resorting to judicial proceedings that is Court. Thus, an ombudsman is a non-adversarial arbitrator of a conflict, placed in a subordinate position to an "adversarial adjudication". Banking Ombudsman is those institutions that try to resolve disputes arising out of banking transactions between customers and the banks and in certain cases even between different banks also. Such an ombudsman is established by schemes with proper regulatory mechanisms. Similarly, in India also several schemes have been implemented from time to time to make the banking ombudsman an efficient mechanism for solving banking disputes amongst which the scheme of 2006 is most important. This paper will therefore attempt to understand how a banking ombudsman has been established in India to understand its efficiency in dealing with emerging cases of bank disputes.

Conceptual Framework

Sir Lawrence Sherman, who was a banking ombudsman of the UK, said that "an ombudsman is neither a champion nor the defender of the banks; he is an independent arbitrator for fair settlement of disputes arising between the banker and the customer".[1] P.H Collins enumerates in the dictionary of banking "an ombudsman is an official who investigates complaints by the public against Government Department or other large organization",[2] The Banking Ombudsman Scheme was for the first time instituted in the U.K. in 1986. Within a short period, it grew into a well-known and competent agency for resolving conflicts in banking. "The Banking Ombudsman Scheme of the UK established a tripartite structure that consisted of the Board of Directors, the Gov-

[1] Sambit , Ombudsman: Origin, Nature, Power and Functions |Public Administration (14 Jan, 2018) *available at:* <https://www.yourarticlelibrary.com/public-administration/ombudsman/ombudsman-origin-nature -power-and-functions-public-administration/63448> accessed on 14 Apr, 2019.
[2] Ibid.

erning Council, and the Ombudsman being assisted by the Resident Banking Adviser".[3]

The Banking Association of India had formed, a sub-committee, in 1992 to analyze the prospects of forming an ombudsman-like structure for Banks in India. For this purpose, Sir Lawrence Sherman was invited to India to indent the officials of the bank regarding the functions and significance of the idea of the ombudsman. Thereupon, the Reserve Bank of India (RBI) developed the concept of banking ombudsman, which came into operation on June 14th, 1995.

In India banking ombudsman has been established as a "quasi-judicial authority", working under India's Banking Ombudsman Scheme, which was formed in furtherance of a resolution taken by the Indian government to facilitate the determination of grievances of bank customers concerning certain utilities provided by the banks. The Banking Ombudsman Scheme provides a speedy and affordable platform for the customers of the bank for easy redressal of their grievances concerning the utilities delivered by the banks. The Banking Ombudsman Scheme was brought in by the Banking Regulation Act 1949 under Section 35A by RBI with effect from 1995. However, the Banking Ombudsman possesses a confined jurisdiction which was decided in "M/S Durga Hoks Complex Case[4]", where the basis of the grievance was transferred to a different complaint stage, the complaint sheds its ground of law. That is to say, the subject matter of the grievance should not be imminent in a different court or bench or before an arbitrator when the complaint is registered and also when the complaint is engrossed for scrutiny and determination. The basic vision of the Banking Ombudsman is to stand as a transparent and dependable process of conflict redressed system for the masses using the services of the Bank.

The targets of the scheme of the Banking Ombudsman can be enumerated as follows:

a. To ensure that the bank customers are getting their disputes resolved in an affordable, speedy, and just manner so that banking services in the country will be further improved over time.
b. To give a review or suggest measures to RBI concerning the composition of suitable and periodical directions or standards to other banks to ameliorate the standard of utilities provided to the customers and to make their system of internet conflict resolution firm.
c. To embellish the knowledge of the banking ombudsman scheme.
d. Using Information Technology and its exhaustive and smoothly available databases for speedy and just disposal of grievances.

The expositions for the appointment of the banking ombudsman scheme are:

a. To assist the progress of speedy settlement of grievances against the banks and also between the banks concerning utilities it provides and problems.
b. To enhance the quality of customer service by keeping provisions for penalties in cases of misconduct and compensation to the victim.
c. To enhance the customer's vigilance concerning their rights and attain effective recognition from the bank.
d. To disseminate social accountability among bank staff and therefore ameliorate banking services and staff proficiency.
e. To embellish competitiveness among the banks in India by ensuring

[3] Ibid.
[4] AIR 2007 S.C 1469.

careful management of business proceedings.

Growth of Banking Ombudsman

The banking system provides for favorable circumstances financiers and transmits the assets accessible for the development and subsistence of the market, merchandise, and commercial enterprise therefore an effective system of banking is required for the ushering of the domestic economy. And, in such an arrangement, the scheme of "checks and balances" must be imported to abate incompetence and misconduct. Besides the parameter of banking service is highly relied upon the service catered by the banking staff to its consumers and the like ascertains the eminence and progress of the bank. Since banking services are mass utility services and because of the corroding services served to the masses and also having apprehension to the matter that services so carried out by the banks in a reckless way, which were not only inadequate but also exiguous in procedure and such a condition of density and affliction, the bank customers were forced to move from one place to another in search of a remedy which they rarely acquired, so the authority felt the need to have distinct machinery to address and adjudicate such complaints and grievances.[5] Though the Consumer Protection Act 1986 or courts used to manage the aforesaid task, however, the forum of consumer protection was pressured by the disquieting acceleration in the rate of cases. In the realm of banking, as the consumers were involved, their complaints were profuse and multifarious.

The Reserve Bank of India was also delegated with grievance redressal powers. They entertained grievances and transmitted them to the bank concerned and then the banks were further necessitated to endure a statement of opinion and assure that the complaint of the victim was properly addressed. Irrespective of the matter of whether it was addressed or not, transactions through paper did take place. The sector of banking was continuously under faultfinding by committees, masses, and the press. Various reviewing committees, commissions, and working groups were established to proceed further into the matter in 1972. "The Banking Commission headed by Sri R.G Saraiya followed by Sri R.K Talwar whose 1972 recommendations and last report to the Goiporia committee was a step further as to the sustained anxiety of RBI towards the improvement of customer services in banks".[6] The banks had applied the recommendations to a larger magnitude but still, there were no fruitful results in the banking sector and the fields of inefficiency were still evident and were glaringly seeable. "The Narsimhan Committee on Banking and Financial Sector Reforms examined these critical areas and recommended the introduction of the banking ombudsman scheme 1995 of financial sector policy and system reforms 1991-92."[7]

The recommendations were very much important and were indeed a necessity and where appropriate in the evolving requirements of the bank -customers and in an environment where the customers were becoming vigilant about their rights, day by day. "In this backdrop, RBI accepted the recommendations as a part of their banking policy, Dr. C Rangarajan, the governor, announced the banking ombudsman scheme on June 14, 1995, the scheme was issued under the provision of Banking Regulation Act 1949, which covers all Scheduled Commercial Banks and the Scheduled Primary Cooperative Banks having busi-

[5] Dr. Anjani Kant, Lectures on Banking Law, (7th Edition, Central Law Publishing 2016) 98.

[6] Moumita Mallick, Banking Ombudsman Scheme (7 Jul, 2017) *available at:* <http://www.legalservicesindia.com/article/2319/Banking-Ombudsman-Scheme-2006.html > accessed on 17 Jan, 2019.

[7] Ibid.

ness in India".[8] The scheme came into operation in June 1995. In its antecedent stage, the ombudsman was selected regularly in three regions- "Mumbai, New Delhi, and Bhopal", but afterward its foundation for the transaction has been widened. The basic goal and intention of the banking ombudsman were to render speedy and affordable procedures to solve complaints of customers evolving from the inadequate services provided by the banks. Therefore, the banking ombudsman was in a position to take concern of public grievances against inadequacies in the utilities provided by the bank concerning activities of personal accounts, loans, or advances. The model shift that took place in Banking Ombudsman 1995 to Banking Ombudsman 2006, have beyond the years widened the ambit and jurisdiction of the banking ombudsman areas which were previously not covered. This process of extension has taken place in the following ways:

I. Encompassment of Banks -

The scheme of 1995 encompassed only those "Commercial Banks" and Scheduled Primary Cooperative Banks, which had made India a business place. "The 2002 scheme broadened the operation of the ombudsman scheme by including within the definition of 'bank' such entities as Regional Rural Banks, State Bank of India and Subsidiary Bank as defined in part I of the Banking Regulation Act 1949, even the Scheduled Commercial Banks are covered under the latest scheme of 2006."[9]

II. Receive of Grievances-

The scheme of the ombudsman enumerates certain criteria based on which grievances or complaints will be received. During these years the rage has been to augment the area of authority of the ombudsman. Reserve Bank of India has enlarged the ambit of the ombudsman to accommodate grievances of customers regarding credit cards, the inefficiency of the bank staff in providing assured services; imposing taxes on services without any antecedent notice to the customers, and inconstancy to the standards and uniform codes of individual banks. In pursuance of establishing the scheme as efficient, RBI has resolved to take responsibility for the recruitment and financing of the scheme. It has also permitted for online registration of complaints by the aggrieved ones and also to further appeal in opposition to the decision given by the Banking Ombudsman. "The Banking Ombudsman Scheme 1995 was notified by the Reserve Bank Of India on June 14th, 1995 in terms of the powers conferred on the banks by section 35A of the Banking Regulation Act 1949 (10 of 1949) to provide for a system of redressal of grievances against banks."[10] It desires to come up with a framework for speedy and affordable settlement of customer grievances. This scheme which is in action from the year 1995 has been amended two times i.e. in 2002 and 2006. The scheme is implemented and managed by a banking ombudsman who is elected by RBI at 15 centers encompassing the whole nation.

Analysis of the Banking Ombudsman Scheme

1) Powers and Jurisdiction Of A Banking Ombudsman-

i. RBI shall designate the areas in which the officials of the banking ombudsman shall exercise their powers.
ii. "The Banking Ombudsman shall receive and consider complaints relating to the deficiencies in banking or other services

[8] Shubham Narvare. Banking Ombudsman (15 June, 2018), *available at:* <https://www.lawyerspotters.com/news/48/Banking-Ombudsman/> accessed on 25 Jan, 2019.
[9] Sakshi Sethi, Banking Ombudsman Scheme,(21 Feb, 2020) *available at:* <http://lawtimesjournal.in/banking-ombudsman-scheme/> accessed on 24th July 2020.
[10] Ibid.

filed on the grounds mentioned in clause 8 irrespective of the pecuniary value of the deficiency in service complained and facilitate their satisfaction or settlement by agreement or through conciliation and mediation between the bank concerned and the aggrieved parties or by passing an Award as per the provisions of the Scheme."[11]

iii. The "banking ombudsman" will discharge the usual functions of administration and authority over this office and he shall be accountable for the regulation of business therein.
iv. The office of the banking ombudsman will attenuate a yearly budget for itself in discussion with RBI and shall exert the powers of expenditure following the rules of "Reserve Bank of India Expenditure Rules,2005".
v. The Governor of RBI will be sent a report by the banking ombudsman, annually on 30th June, which will include an approximate analysis of the tasks of his office undertaken during the preceding financial year and shall provide such relevant information as the RBI. The RBI may also, if necessary, circulate or publicize such information.

2) Procedure for Redressed of Grievance-

i) Grounds of Complaint:

"Any individual may register a complaint with the banking ombudsman having jurisdiction on any one of the following grounds alleging deficiency in banking including internet banking or other services."[12]

a) Default or extravagant deferment in the payment or acquisition of cheques, promissory notes, receipts, etc.

b) Refusal to accept notes of lower denomination, without any reasonable cause, and adjuring commission therein.

c) Refusal to accept "coins tendered" without any reasonable cause.

d) "non-payment or delay in issue of drafts"

e) In case of a situation where the bank has failed to disperse promissory notes, cheques, bills, etc

f) Non-compliance with the directed hours of the working period.

g) "delays, non-credit of proceeds to parties accounts, non-payment of deposit or non-observance of the Reserve Bank directives, if any, applicable to rate of interest on deposits in any savings, current or other account maintained with a bank"[13]

h) Grievances from NRIs who have accounts situated in Indian banks concerning the remittances from foreign, money in the banks, and other allied matters.

i) Where the bank has without any rational cause declined a customer to open a bank account.

j) Imposing charges without any antecedent communication to the customers.

k) Instances where the banks or any other subsidiary banks have not complied with the guidelines specified by the Reserve Bank of India, concerning ATM/Debit Cards.

l) Non-compliance with the regulations of RBI concerning mobile banking or E-Banking service in India on the matters mentioned below-

i. Deferment or inadequacy to actuate E- e-payment

[11] Pragya Mishra, A Brief Analysis of the Banking O budsman Scheme in India,(11 Nov,2018) *available at:* <http://www.manupatrafast.com.> accessed on 12 Oct 2018.
[12] Ibid.
[13] The Banking Ombudsman Scheme 2006.

ii. Paying money that is not authentic, by electronic medium.
iii. Non-compliance by the bank subsidiaries to the regulation relating to credit card transactions.

m) Non-payment or deferment in payment of pension

n) Denial to receive deferment in receiving payment made concerning tariffs as needed by RBI or government.

o) Repulsion in issuing or deferment in issuing of government services.

p) Compulsive termination of depository accounts without any notice and any reason.

q) Rejecting to terminate or deferment in terminating the accounts.

r) Non-compliance to the "fair practices code as adopted by the bank"

s) Not adhering to the RBI directions on the appointment of recovery agents by the bank.

t) Non-compliance to the directions given by RBI regarding para-banking activities.

u) Other issues concerning the breach of the guidelines published by RBI concerning banks or banking services.

3) Process for Filing Complaint-

An individual who has a complaint against a bank or concerning any one of the grounds as given in "clause 8" of the scheme, may on his own or by his representative, register a grievance to the authorized Banking Ombudsman who has jurisdiction within the area where the said bank is situated. But in case the said grievance concerns credit cards, the complaint shall be registered to the banking ombudsman who possesses jurisdiction within the area where the bill location the customer is situated.

"The complaint in writing shall be duly signed by the complainant or his authorized representative and shall be, as far as possible, in the form specified in Annexure or as thereto as circumstances admit, stating clearly"[14] :

i. The name and place of residence of the victim
ii. The concerned bank's name and address
iii. The facts of the complaint
iv. The character and magnitude of the loss occurred
v. The remedy desired

"The complainant shall register along with the complaint, copies of the documents which he possesses to rely upon and a declaration that the complaint is maintainable and a complaint made through electronic means shall also be accepted by the banking ombudsman and a printout of such complaint shall be taken on the record of the banking ombudsman."[15]

However, the "banking ombudsman" shall not receive any complaint unless-

a. The complainant had at first given, before going to the "banking ombudsman", a handwritten statement of the grievance to the concerned bank and received no reply a delayed reply, or an unsatisfactory reply.
b. The complainant had moved to the banking ombudsman within one year of receiving the response from the bank and one year & one month of making the representation to the bank where no reply was given.
c. The grievance is not related to the identical cause of action which was already determined by the banking ombudsman in a previous case.
d. The grievance is not related to the exact cause of action which is already pending

[14] The Banking Ombudsman Scheme 2006.
[15] Ibid.

in front of any court, tribunal, or arbitrator.

e. The complaint is not trivial or bothersome.
f. The grievance was registered in the period given under the Limitation Act 1963.

4) Authority To Demand Information-

To execute his responsibilities as given in the scheme, a banking ombudsman has been vested with the power to call for information or inspection of any documents, records, or books from the concerned bank or any other bank. The banking ombudsman will look after the maintenance of confidentiality of those documents. However, the banking ombudsman, to adhere to any statutory necessity, reveal any documents of a party to the other party.

5) Settlement of Complaint by Agreement-

After the complaint has been settled between the parties, "the banking ombudsman" shall dispatch copies of the complaint to the concerned bank under the recommendation of the Nodal Officer stating his attempt to endorse settlement by agreement between the parties. And for this purpose, the banking ombudsman is not required to follow any evidence rules and he can pursue any method which he regards as fair and just.

However, if the ombudsman finds the documentary and other written pieces of evidence non-satisfactory then it may call the customer as well as the bank in dispute and organize a meeting between the two for an amicable settlement of the dispute concerned.[16]

The banking ombudsman will consider the complaint solved under the following situations-

a. In a case where the grievance was solved by the respective bank with the support of the "banking ombudsman".
b. The bank customer gives his assent to the redressal brought by the banking ombudsman, in writing
c. In the conjecture of the banking ombudsman, the bank has complied with the rules and regulations of banking law and the complainant has been acquainted with this effect through suitable means and if there was any disagreement from the complainant which was not accepted by the banking ombudsman within the stipulated time.

6) Award by the Banking Ombudsman-

If the parties have not been brought into settlement by agreement after one month from the date of receipt of the complaint has been over, the banking ombudsman may allow the parties an impartial opportunity to demonstrate their cases, after which the banking ombudsman may declare an award or dismiss the complaint. The award shall contain the intention of declaring it. The complainant and the bank will be sent copies of the complaint.

However, the award shall become void unless the complainant, within 30 days from the day of accepting the copy of the award, provided the concerned bank receives a letter of acceptance of the award.

7) Denial of the Complaint-

The banking ombudsman may refuse the grievance at any time during the pendency of the complaint before it if he thinks that the grievance put forward is :

a. "not on the grounds of complaint referred to in clause 8"[17], or
b. Inconsistent with clause 9(3)

[16] The Banking Ombudsman Scheme, 2006.

[17] Ibid.

c. Not within the ambit of the monetary jurisdiction of the banking ombudsman
d. Needing examination of "detailed documentary and oral evidence and the proceedings before the banking ombudsman is inappropriate for determination" or,
e. Without any reasonable cause or,
f. The complainant has made the complaint without any alertness
g. The banking ombudsman believes that the complainant has not suffered any loss or trouble.

8) Appeal Before the Appellate Authority-

The parties to the complaint who are dissatisfied with the award or whose complaint was been rejected may appeal to the Appellate Authority within 30 days of the communication of that award or rejection of the complaint.

In case the party appealing is the Bank then 30 days will begin from the date on which it receives the letter of acceptance from the complainant. If the appellant authority has adequate reasons to believe in the delay of the complainant to file an appeal beyond the stipulated time, then he may extend 30 days. After providing the parties, a reasonable opportunity to hear their cases, the concerned authority, may -

a. Repudiate the appeal
b. Abrogate the award by admitting the appeal
c. "remand the matter to the banking ombudsman for fresh disposal following such directions as the appellate authority may consider necessary or proper"[18]
d. To set forth the award by altering it and authorizing such directions.

9) Banks to Showcase the Characteristics of The Scheme for Easy Assistance of Masses-

The banks that are encompassed by the banking ombudsman scheme must make sure that all the necessary information and contact details regarding the banking ombudsman are affixed in a conspicuous place of the bank or its branches so that people visiting the bank can look at it and have enough information regarding it. Banks embodied under the scheme shall ensure that an archetype of the scheme is accessible to the authorized personnel of the bank for examination in the bank if any person wants so and information about the accessibility of the scheme with the authorized officer will be advertised in addition to the notice and shall put the archetype of the scheme in their websites.

"The banks covered by the Scheme shall appoint Nodal Officers at their Regional/Zonal Offices and inform the respective Office of the Banking Ombudsman under whose jurisdiction the Regional/Zonal Office falls. The National Officer so appointed shall be responsible for representing the bank and furnishing information to the Banking Ombudsman in respect of complaints filed against the bank. Wherever more than one zone/region of a bank falls within the jurisdiction of a Banking Ombudsman, one of the Nodal Officers shall be designated as the 'Principal Nodal Officer' for such zones or registered office".[19]

Removal of Difficulties-

In case of the event of any difficulty arising in carrying out the scheme, the reserve bank may frame any other provisions to give effect to the scheme, which are consistent with the regulations of the Banking Regulation Act 1949.

Thus, the determination of those grievances that were pending before the Banking Om-

[18] Pronoy Kumar Ghose, A brief dissection of Banking Ombudsman Scheme, (3 Oct, 2018) *available at:* <https://www.lawyersclubindia.com/articles/a-brief-dissection-banking-ombudsmen-scheme-5493.asp> accessed on 18 Apr 2019.

[19] Ibid.

budsman Scheme 2006 came into force will persist to be administered by the retrospective scheme.

Conclusion and Suggestion

In every part of the world, banks which are regarded as the establishment of financial prominence, the determination of the grievance regarding their activities or conduct is also an important feature of consumer contentment. As such, the ombudsman or the authority looking after consumer grievances concerning banking services has been appointed by many countries. The scheme of the ombudsman by far has been a blessing and a very significant medium for the conciliation of grievances of the masses against the services of the banks. The scheme has been designed in such a way that it does not relegate the jurisdiction of other courts and thus the discontented customers do not stumble on utilizing the banking ombudsman as a basic mechanism for addressing the conflicts concerning the banks. The symbol of the banking ombudsman is the arrangement to do fairness to an aggrieved without restricting itself to precedents and also can do away with the technicalities and basics of evidence during the redressal procedure.

The new scheme of 2006 has been much more comprehensive than the earlier schemes of 1995 and 2002. The recent scheme gives a provision through which an aggrieved customer can file his complaint online. Conjoining to that, the scheme also provides for the establishment of an "appellate authority", through which the complainant or the bank not satisfied with the awards passed by the banking ombudsman can further appeal for it. Moreover, in the case of powers of the banking ombudsman, they too have been expanded, by adding the powers to arbitrate between banks and customers. Hence, he can look after conflicts related to regional rural banks, commercial banks, and scheduled cooperative banks.

From the thorough analysis, it can be derived that there exists still some deficiency in customers' knowledge regarding the advantages of the banking ombudsman. As such it is the need of the hour to disperse awareness between the masses so that they can prevent unwanted risks regarding bank transactions. Recently offices have taken the initiative to outreach activities to spread enlightenment among the masses through teaming up with banks, holding mass-sensitization programs taking part in exhibitions replying to the doubts of customers in newspapers, publishing ads on AIR, and Doordarshan. Since the rate of cases approaching the banking ombudsman is increasing massively, the banking ombudsman needs to look after them competently and expeditiously to ensure consumer gratification. Moreover, the grounds based on which a customer can move to the banking ombudsman are only 27, so there lies an urgent requirement to widen the ambit.

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Navigating the Realm of AI Creations and Intellectual Property

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ABSTRACT
Imagine where the computers we work on gain the capability to think on their own and have a human-like mind of their own. From setting a reminder on our gadgets to booking concert tickets for our favourite artists, Artificial Intelligence (AI) has taken over our day-to-day chores. We live in the realm where AI writes poems, can generate melodies, and whatnot. So the question arises about the ownership and the legal rights associated with the inventions of AI. In today's world where technology is taking over the world, AI has emerged as an innovative as well as a revolutionizing way, the way we interact and use the digital realm. AI has started to affect many industries; Intellectual Property Right (IPR) hasn't been left out. The determination of ownership and protection in the context of AI depends heavily on IPR. The revolution of AI can be looked at in major two folds, i.e., one being the positive changes AI has brought, and how the inventions and creation done by AI are extremely beneficiary in the area of patent protection where it can tell if an idea has already been used by someone else. The second is, that the implementation of AI has the potential to significantly alter the current intellectual property system, creating new issues with ownership, creation of property rights, and infringement. etc. In this paper, the main objective is to explore the developments in the international aspects and, how the IPR has been modified to cope with AI and Comparative Analysis of Ownership and Legal Rights.

KEYWORDS
Accountability; Artificial Intelligence (AI); Intellectual Property (IPR); Innovation; Ownership

Paper Code
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Introduction

AI is emerging as a new trend where people around the globe have been struck with the gaze of it and how it can make one's day-to-day life sorted. The ability of a computer program to solve a problem or make a decision in a situation, that is, the program itself finds the approach that should be taken to resolve the problem or make a decision, to identify the similarities between various situations, is referred to as artificial intelligence. Artificial intelligence is defined as a science that aims to understand the nature of human intelligence through the work of a computer program. It also means the ability to simulate intelligent human behaviour.[1] AI has now become the most transmuting or we can say a metamorphic force in several industries. With the moving time, AI has made a way in everyone's life, be it in the way of a digital voice assistant, i.e., Siri or Alexa, or be it Chat GPT which is developed by "Open AI", which makes our search struggle easy. With AI gaining dominance, the question that arises is who will get ownership of the creations made by AI, will it be the machine that created it without the intervention of a human or will it go to the creator of the machine or the software? Talking about India, which is known for its rapid development in the area of technology, the growth of AI, and its ownership it remains unanswered and a challenging issue that needs an intricate comprehension of current laws and the dynamic nature of AI technologies. Even the judiciary has sought out AI, the world's first online

[1] Jamal bin Subaih Al-Hamlan Al-Sharari, The Impact of Artificial Intelligence on the Quality of Administrative Decision from the Point of View of Secondary School Leaders in Al-Jouf Educational Region, Volume 8, Part 1, Solouk Magazine, Ibn Badis University Mostaganem, Algeria, 2021, pp. 18-19.

court heard its first case in 2017, using AI to prepare judgments and facial and audio recognition to digitally compile trial records[2].

Since AI does not hold a legal identity, unlike a company which holds its own identity, a company can be held liable or given ownership of certain things. Now AI has become much smarter because of technology, computer is getting faster day by day. The size of the worldwide AI market was estimated at "USD 136.55 billion in 2022 and it is anticipated to increase at a CAGR of 37.3% from 2023 to 2030"[3]. Nonetheless, it can be said that the development in the tech world has allowed AI to create its own creations. Further, it has been stated that in the next 40-45 years there is a 50% chance that AI will outperform humans in all sorts of tasks.[4] The increase in the creation and innovation by AI, it has increased hurdles for customary intellectual property rights, which gives protection to all sorts of legitimate creations as well as inventions. It faces hurdles like authorship and ownership uncertainty, originality and creativity criteria, etc. Within the context of conventional Intellectual Property Rights (IPR), the landscape of authorship and ownership is experiencing a significant change. The rise of AI-generated material poses a puzzling quandary, as traditional IPR centres on identifying human authors and creators. Since AI does not have a distinct human identity, it is unclear whose property it is creating. The fundamental nature of ownership is disrupted by this ambiguity, leaving the copyright and patent industries facing a conundrum that goes against accepted conventions. As the lines between human and machine creativity are blurred, the fundamental IPR principles—which have historically relied on human authorship—must now forge ahead through uncharted territory.

The key issue in the AI context is who should be listed as the inventor in a patent application for an AI-generated product. There is a school of thinking that claims AI-produced inventions should be considered public domain. The biggest issue with this strategy is that it would deter individuals from investing in the creation of innovations due to a lack of incentives. Accordingly, it is thought that giving the inventor of the AI systems the patent rights for the products they develop is essential for the entrepreneurial environment. It can be said that, fruits that fall naturally on nearby land are considered to belong to the owner of that land, unless it is a public use land. If we take an instance of the UK's stand in the authorship as well as the ownership of patent rights, whether it should be given to a "the machine", where it invents something on its own, was answered by the court of appeals in the *DABUS case*[5], where an appeal was filed in various countries by Dr Stephen Thaler for an invention done by a machine of his named DABUS[6], which was rejected, because a "machine" does not hold any legal identity unlike any human or even a company. DABUS was specifically programmed to read and substitute a few characteristics of a human brain. DABUS invented two inventions namely – a flashing light that attracts more attention and a more efficient beverage container. The appeal was also rejected by the court of appeals, where it was held that to apply for an invention the creator must be a human and upheld the UK's Patent Act criteria for the creator of

[2] Changqing Shi, Tania Sourdin and Bin Li, 'The Smart Court – A New Pathway to Justice in China?' *(2021) 12(1)* International Journal for Court Administration 4. DOI: https://doi.

[3] "Artificial intelligence, market size, share entrance analysis report by solutions, by technology (deep learning and machine learning), by end-use, by region, and segment forecasts, 2023- 2030:" *available at:* <https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-ai-market> accessed on July 22, 2023.

[4] J. SALVATIER - A. DAFOE - O. EVANS - B. ZHANG - K. GRACE, "When Will AI Exceed Human Performance? Evidence from AI Experts", *ARXIV, 2017.*

[5] *Stephen Thaler v Comptroller General of Patents Trade Marks and Designs* [2021] EWCA Civ 1374.

[6] Device for Autonomous Bootstrapping of Unified Sentience.

an invention and stated that an AI cannot be listed as an inventor under patent protection. On one hand, we have countries that have supported the judgment of the UK court and relied on them. The UKIPO's[7] decision to deny Dr. Thaler's application was supported by the European Patent Office as well as the United States Patent and Trademark Office which they stated that to file a patent application, the inventor must be a natural person with legal capacity, according to both courts.

On the other hand, Dr. Thaler's application was granted by the South African IP Office. Whereas the German court in their judgment did allow the application of Thaler, but in an innovative way, where it recognized that DABUS did play a crucial role in the invention while listing Thaler as the main inventor.[8] The South African IP office while granting the application of Thaler stated that "the main factor which is looked at while granting a patent application is that the application forms and the fees are in order with the specified document attached, and if this procedure is duly followed by the applicant, the patent will be granted by the CIPC[9]." By this, we can say that countries are trying to get AI-friendly while accepting patent applications and trying to amend their laws as per the need.

Whereas India while examining the application of Thaler, declined the application by stating that it could not pass the technical examination as well as it was not recognized as a person under section 2 and section 6 of Indian Patent Act, 1970. The court relied on the precedent judgment of the case of ***V.B. Mohammed Ibrahim v. Alfred Schafranek***,[10] where the court emphasized the involvement of a human in an invention, where it stated that neither a financing partner nor a corporation can solely be named as an inventor because an invention needs a direct human skill. Whereas the standing parliamentary committee of India differs from the above-stated viewpoint and has recommended the Department of Commerce make relevant and necessary changes in the Indian Copyright Act 1957 as well as the Indian Patent Act 1970, to make them more AI-friendly and to introduce a strategy that connects mathematical methods or algorithms to a concrete technical device or practical application. For the same, a report[11] was introduced in the Rajya Sabha in 2021, which recommended the Department of Commerce revisit the existing laws.

These are the few cases where several countries have laid down guidelines in patent protection for inventions generated by the help of AI. But now if we talk about innovative creations or acts created by AI, is it eligible for copyright protection? European Union 2019 introduced the EU's Copyright Directive, which stated that content generated by an AI will be eligible for copyright, provided that the content generated is not a pure work of AI and has some human involvement, i.e., the result which was generated by the AI was influenced by the several choices made by human intervention. Whereas, in India, the concept of AI-generated material is still under a shadow, which needs to be looked at again to shed light on the same issue. In introducing and regulating laws related to AI, India's stand is yet not clear. But in June 2023, the MeitY[12] will revisit the traditional laws, and look into the growth of AI, which was hugely influenced by the

[7] Intellectual Property Office of the United Kingdom.
[8] COMMENTARY, Patents and AI inventions: Recent court rulings and broader policy questions.
John Villasenor, *available at:* <https://www.brookings.edu/articles/patents-and-ai-inventions-recent-court-rulings-and-broader-policy-questions/> acessed on 12 July 2023.
[9] Companies And Intellectual Property Commission, South Africa.
[10] *AIR 1960 Mysore 173.*
[11] Report 161: Review of the Intellectual Property Rights Regime in India, *available at:* <https://sansad.in/getFile/rsnew/Committee_site/Committee_File/ReportFile/13/141/161_2022_5_12.pdf?source=rajyasabha> accessed on 10 July 2023.
[12] Ministry of Electronics and Information Technology, India.

stand of the European Union, where their committee has adopted AI-friendly laws. If we take another example of a country that is ahead and is adopting AI-friendly laws, it is China, where an approach for the patentability of AI-generated creation is eligible for patent protection was introduced in 2016, and in 2021 few guidelines were introduced which stated that, if the particular criteria is met by the invention of AI, it will be eligible for the legal rights. It can be stated that India is yet to adopt an AI-friendly approach with respect to IPR, and is still tangled within its traditional laws, whereas many other nations have responded positively towards the growth of AI and have adopted their legal framework accordingly, and India is trying to make a clear stand.

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Patentability of AI Inventions in India: Promising Features and Preliminary Concerns

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ABSTRACT
At the forefront of COVID-19, when the world came to a halt; Artificial Intelligence (AI) contributed to the digital defines against the pandemic. It led to the development of new medications, vaccines, and diagnostic procedures. Even in our daily tasks, AI has paved the way for more creative and revolutionary approaches. The emergence of AI Inventions has sparked a whole new controversy regarding the ownership, patentability, protection, and enforcement of intellectual property rights in the realm of AI inventions. In India, the concept of 'technical effect' in the outcome generated or created is given priority. Even though Artificial Intelligence has become the 'hot topic' for debates in technology law, the law is struggling to keep up with such advancements. The current legal framework in India needs to evolve to address the role of AI in creating patentable inventions. The article intends to examine the basic tenets of patent law in this area. This article attempts to study the concept of AI and the legal implications of patenting it. Lastly, the article provides a critical analysis with suggestions asserting that AI inventions can have a significant impact on a nation's innovation potential and economic growth, The need of the hour is to bridge the gap between the legislative framework and technological advancements.

KEYWORDS
AI-Generated Inventions; Patentability; Technical Effect; Technical Contribution; Legal Personality

Paper Code
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Introduction

Artificial intelligence, also known as machine intelligence, refers to automated intelligent approaches. Simulating logic, information, learning, perception, planning, communication, and operation are at the heart of an AI.[1] It is a machine-based simulation of human intelligence. Today, AI is capable of creating inventions without any assistance from humans. Patenting 'non-obvious and efficient technology' provides exclusive benefits for the growth of the economy as well, such as an incentive to invest in the Research and Development (R&D) of new technology.[2]

Key stakeholders including universities, businesses, and public research institutions have turned to intellectual property laws to help secure their breakthrough inventions.[3]

The advancements can be protected in two ways:

- By a patent, and
- Through scientific publication.

India ranks higher in scientific publications than in patent filings, according to the WIPO report on AI technology trends.[4]

[1] Xiao-QingFeng, Bai-HuaPan, 'The evolution of patent system: invention created by artificial intelligence' (2021) 183 Procedia Comput. Sci. *available at:* <https://www.sciencedirect.com/science/article/pii/S1877050921005226?ref=pdf_download&fr=RR&rr=731f4a918891a926> accessed 14 August 2023.

[2] Shlomit Yanisky-Ravid, Regina Jin, 'Summoning a New Artificial Intelligence Patent Model: In The Age Of Pandemic' (2021) 1 SSRN *available at:* <https:// www.ncbi.nlm.nih.gov/pmc/articles/PMC7366817/> accessed 16 August 2023.

[3] Canadian Intellectual Property Office, 'Processing Artificial Intelligence: International Importance of IP and AI' (*Government of Canada*, 2 October 2020) *available at:* <https://www.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr04779.html> accessed 16 August 2023.

[4] Dr. Kalyan C. Kankanala, 'Artificial Intelligence (AI) Inventions and Patents in India' (*K-Tech Centre of Excellence Data Science and Artificial Intelligence*, 27 July 2021) available *at:* <https://coe-dsai.nasscom.in/artific

Patentability of an AI

Obtaining a patent for an AI invention presents complexities at the forefront of Intellectual Property Laws. Some jurisdictions have permitted the AI machine to be included as an inventor on patents even though most IP laws currently do not have particular provisions to accommodate a non-human entity as an inventor for patents. South Africa in *Thaler v. Vidal*[5] permitted such a patent. The applicant in this case had waged a campaign around the world by filing patent applications for his "Device for the Autonomous Bootstrapping of Unified Sentience" (DABUS) in several countries; recently, the US Supreme Court, on the other hand, rejected the application.[6]

The main concerns that AI Inventions raise are:

- Whether AI technology can ever be considered an "inventor" in legal terms?
- Should AI be viewed as a technical tool or as a person?
- Whether the invention created entirely or partially by AI?
- Who should be the owner of a patent for AI inventions?
- Who should be responsible for the enforcement of patents?[7]

An intriguing question that came across in the context of AI inventions was whether the benefits offered to a human inventor would encourage and applies to inventions created partially or entirely by an AI system.

There is uncertainty over the inclusion of computer-generated inventions within the Indian legal framework for the patentability of AI inventions. The protection of intellectual property of AI inventions has put to the test long-standing practices and principles followed across the world.[8]

Historical Background

The term "Artificial Intelligence" was first used not long after mathematician-cryptologist Alan Turing developed the Turing Test, which is still used today, to gauge the intelligence of machines. This was roughly seven decades ago. The pioneers' efforts are already bearing fruit, as AI has the potential to revolutionize solutions used in every sector, from transportation to healthcare, and change the way we interact with the outside world.[9] The Intellectual Property Laws are the first to reflect the difficulties that AI technology will have with how human civilization is organized, and its origins may be found in the early days of computer science. The first work deemed to have been independently produced by a computer was submitted to the American Register of Copyrights in 1965.[10]

The Status Quo

We must first determine what is considered "patentable" before talking about the statutes and case laws. An innovation generally cannot

ial-intelligence-ai-inventions-and-patents-in-india/> accessed 16 August 2023 .

[5] U.S. Court of Appeals for the Federal Circuit, No. 21-2347.

[6] Benzinga, 'Who Owns AI's Inventions? US Supreme Court Says It's Not The AI' (*Yahoo! Finance*, 12 May 2023) *available at:* <https://finance.yahoo.com/news/owns-ais-inventions-us-supreme-53958496.html?guccouer=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAL-O0bSLO8t8ycROTQNEeBG78NaVPFm-VAbsGWZIwdM4iN0 3rcCu9LERZhT6gqR5CYGDRiZIybKPeHlAhwStUwHgJSqTgX9utVwzu-3_Olj1G_TmOLN1pPpYNIGNOdz_GDELbQAwMq6oVtodp5I4I2JuG3PKEib3soApeT4RVW0> accessed 16 August 2023.

[7] Brooks, 'Should AI Systems be Eligible for Patents?' (*Brooks*, 28 January 2022) *available at:* <https://www.brookskushman.com/insights/should-ai-systems-be-eligible-for-patents/> accessed 17 August 2023.

[8] Muskan Saxena, 'Patenting AI and its Legal Implications' (*IPR Law India*, 1 February 2021) *available at:* <https://iprlawindia.org/wp-content/uploads/ 2021/04/Muskan-Saxena.pdf.> accessed 17 August 2023

[9] Neha Arora, Dr. Joyita Deb, 'A future-proof Indian Patent Office? Patenting AI inventions in India' (*Bar and Bench*, 23 February 2022) *available at:* <https://www.barandbench.com/view-point/a-future-proof-ipo-patenting-ai-inventions-in-india> accessed 17 August 2023.

[10] QingFeng (n 1).

be patented unless it meets the following requirements:

- An invention is made by one or more inventors.
- The invention should not already exist.
- There is an inventive step in the invention that is non-obvious. The invention should not be obvious to a 'person skilled in the art' who has 'common general knowledge in that field.
- The invention is capable of industrial application or utility.[11]

AI and International Cooperation

The top five IP offices in the world—referred to as the "IP5"—receive more than 80% of all patent applications filed worldwide. These are what they are:

- The European Patent Office,
- The Japan Patent Office,
- The Korean Intellectual Property Office,
- The National Intellectual Property Administration in China, and
- The United States Patent and Trademark Office.[12]

They collaborate on a number of projects to improve and harmonize the global patent system. Since 2018, they have been looking towards a joint approach to address global technological improvements. By creating a unique task force to oversee their projects, the IP5 offices decided to advance their cooperation in the fields of new emerging technologies (NET) and artificial intelligence (AI) in 2019.[13] The Indian Patent Office received a considerable increase in artificial intelligence-related patent applications between 2016 and 2020, According to a recent search by Banana IP's patent attorneys utilizing WIPO keywords. According to the WIPO report on AI technology, Indian research in computer vision, natural language processing, distributed AI, planning/control, speech processing, and predictive analytics is quite considerable, however, it is not reflected in PCT applications. Research shows that between 2012 and 2015, the number of AI patent applications with an initial Indian file increased by 33%. India ranks at No. 5 in distributed AI applications and has high-ranking publications in the fields of fuzzy logic and machine learning.[14]

The Indian Perspective

We know that the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement is the Bible for international compliance with IP laws. All World Trade Organization (WTO) members must comply with its principles. To become TRIPS compliant, India introduced Section 3(k) in the Patents (Second Amendment) Bill, 1999. Section 3 of the Indian Patent Act, 1970 provides for "What are not inventions". Clause (k) categorizes "mathematical or business methods, computer programs 'per se', and algorithms" as non-patentable. The term 'per se' has not been defined in the Indian Patent Act. The legislative intent behind 'per se' as expressed by the Joint Parliamentary Committee while introducing the 2002 Amendment was that "In the new proposed clause (k) to Section 3, the words 'per se' have been included. This change has been suggested because sometimes the computer program may include certain other things, ancillary thereto or developed therein. If they are inventions, the purpose is not to deny them the right to a patent. However, it is not intended to give patents for the computer

[11]Alexandra George, Toby Walsh, 'Artificial intelligence is breaking patent law' (Nature, 24 May 2022) *available at:* <https://www.nature.com/articles/d41586-022-01391-x> accessed 18 August 2023.
[12] European Patent Office, 'Artificial Intelligence' (European Patent Office, 2 May 2022) *available at:* <https://www.epo.org/news-events/in-focus/ict/artificial-intelligence.html#:~:text=AI%20and %20patentability,implemented%20inventions%22%20(CII).> accessed 18 August 2023.
[13] Ibid

[14]Kankanala (n 4).

programs themselves. This amendment has been proposed to clarify the purpose."[15]

However, this provision does not outright forbid the patenting of Computer-Related Inventions (CRI). According to Indian Patent Law, only inventions that explicitly disclose computer programs per se are not considered to be inventions.[16]

In 2019, the Delhi High Court, in ***Ferid Allani v. Union of India and Ors,***[17] acknowledged that computer-based innovations like AI, blockchain, and related technologies were the future of innovation, but added that these innovations "would not become non-patentable inventions - simply for that reason." The court held that "technical effect" or "technical contribution" must be assessed to determine if the CRIs are patentable and that the mere use of a computer program to execute an invention does not preclude its patentability. It was only recently that the Delhi High Court, in ***Opentv INC v. Controller of Patents and Designs and Anr,***[18] recommended that the government should, on a priority basis, review the existing legislation of The Patents Act, 1970 and Copyright Act, 1957 to incorporate the emerging technologies of AI and AI related inventions in their ambit. Although, the court categorically denied the patentability of the invention as it fell within the ambit of Section 3(k).

Other related sections of the Indian Patent Act, of 1970 are as follows

- Section 6(1)(a): "An application for a patent for an invention can be made by any 'Person' claiming to be the first and true inventor of the invention."
- Section 2(1)(y): "True and first inventor" does not include either the first importer of an invention into India or a person to whom an invention is first communicated from outside India.
- Section 2(1)(s): 'In this Act, unless the context otherwise requires, — "person" includes the Government.'

The 'Person' does not automatically become the first and true inventor of the invention. It is important to note that the 'Person' must assert that they are the 'first and true inventor' of the invention. Although Section 2(1)(y) mentions who cannot be an inventor, an ambiguity arises concerning who can be referred to as the 'first and true inventor' in the case of an AI invention.[19] The case of ***V.B. Mohammed Ibrahim v. Alfred Schafranek***[20] establishes the precedent for inventorship. The court held that neither a corporation nor a financing partner could be the sole applicant claiming to be the inventor. This decision emphasizes the fact that an inventorship is typically claimed by a natural person, who is neither a financing partner nor a corporation and who genuinely contributes their skill or technical knowledge towards the conception of the invention.

The AI invention may also be regarded as a 'natural person' according to the criterion set by the above-mentioned case. Regarding the legal person and non-legal entity, the Supreme Court of India in ***Som Prakash Rekhi v. Union Of India & Anr***[21] determined who constitutes a legal person and who doesn't. The court decided that a jurisdictional person is the one to whom the law gives 'personality'. A legal entity that can sue or who can be sued by another entity is referred to as having a juristic personality. An AI is fundamentally incapable of

[15] Harsha Aswani, 'Inventorship and non-obviousness standard in artificial intelligence' (*Ipleaders*, 30 December 2021) *available at:* <https://blog.ipleaders.in/i ventorship-and-non-obviousness-standard-in-artificial-intel ligence/> accessed 18 August 2023.
[16] Ibid.
[17] W.P.(C) 7/2014 & CM APPL. 40736/2019.
[18] 2023 SCC OnLine Del 2771.
[19] Archana Raghavendra, 'Does AI Qualify As An 'Inventor' Based The Statute In Indian Patents Act 1970?' (*Mondaq*, 5 January 2022) *available at:* <https://www.mondaq.com/india/patent/1147320/does-ai-qualify-as-an-inventor39-based-the-statute-in-indian-patents-act-1970> accessed 18 August 2023.
[20] AIR 1960 Mysore 173.
[21] 1980 AIR 1981 SC 212.

exercising any of the rights vested in a legal person or carrying out the necessary responsibilities of any autonomous legal entity.

Therefore, after analyzing the provisions and case laws, one can assess that an AI cannot be recognized as an inventor in India. However, AI-related inventions are currently being acknowledged in India based on the fact that AI is being used as a tool to facilitate the inventor.[22]

The patentability of AI inventions in India is not entirely prohibited. In response to the Delhi High Court's 2019 decision in Ferid Allani, the Indian Patent Office (IPO) has begun reviewing AI-related inventions based on the "technical effect" created by such inventions, even though it has not yet provided clear instructions on the matter. The technical impact or technical contribution of the invention, as well as the definition of broad terms in connection to specific technical effects, must be stated in the patent applications for AI inventions, and it is preferable to distinguish the invention from the cited prior art. However, the Indian domain is still expanding, and the practice and procedure of the IPO may evolve over the years.[23]

Opinions and Suggestions

The advancement in the AI sector has been fueled and made possible by the phenomenal growth of data on a global scale, which has also sparked a flood of AI-related patenting. The issue with the AI Inventions patent is not about 'who' created the invention, but rather about 'what' was invented. When it comes to these inventions, the first and most important question that patent registration offices have to address is whether the inventor must be a human. Another issue pertaining is that AIs might soon be so efficient that their inventions could swamp the patent system with applications.[24]

Another challenge is even more fundamental. When an invention is regarded as "non-obvious" by a "person knowledgeable in the art," it is said that the inventor has taken an "inventive step." The general knowledge and skill set of this hypothetical person are those of an ordinary expert in the relevant technical field. The innovation moves one step closer to being granted a patent if a patent examiner determines that the invention would not have been obvious to this hypothetical individual. We have specific regulations that safeguard a person's concrete ideas as intellectual property when it comes to intelligence. The term "inventor" is not yet defined in the Indian Patents Act. As a result, it is necessary to appreciate the Indian Patent Act as a whole, to comprehend the legislator's intent and interpret the term 'inventor'.[25]

The foremost debate across countries regarding AI inventions is whether patent protection should be restricted to inventions with a human contribution or whether it should be available for inventions that represent new, non-obvious technical developments with \the aid of an AI system.

With respect to the interpretation of the term 'per se' in Section 3(k); it was observed in the Mohd Ibrahim case[26] that "the restriction on patenting only applies to 'computer programs per se' and not to all inventions based on computer programs. It would be outmoded to claim that all inventions in the digital age, where most inventions are based on computer programs, would not be patentable. Innovation in the field of Artificial Intelligence, Blockchain Technology, and other digital products are based on computer programs, however, the same would not cease to be pa-

[22] Raghavendra (n 19).
[23] Arora (n 9).
[24] George (n 11).
[25] Ibid.
[26] AIR 1960 Mysore 173 (n 20).

tent-able inventions simply for that reason. A product that is not dependent on a computer program is uncommon. All of them have some kind of built-in computer program, including cars and other vehicles, microwaves, washing machines, and refrigerators. Thus, to determine patentability, the effect that such programs produce, including in digital and electronic products must be evaluated."

Indian enterprises and inventors are ideally positioned to benefit from the AI revolution through the acquisition of patents and related exclusivity, given the country's capabilities in the software industry. But to make this happen, some crucial facets must be properly constructed. To make India successful in AI innovation, the country should be greatly aided by a clear and well-defined patent policy, legislative amendments to tackle inventorship and patentability issues, clear patent examination guidelines, uniformity in patent review, and proper data set and database protection. Additionally, the strategic application of open source, open data, and open innovation models will foster creative competition.[27]

Conclusion

AI is a paradigm-shifting challenge that forces us to reconsider how to acknowledge and foster invention. It is necessary to make legislative reforms to guarantee the patentability of AI inventions and possibly solve the AI inventorship issue. It would be interesting to see how the law will adapt to the emerging issues of AI inventions which are constantly evolving. The prime objectives of granting patents are to promote R&D, boost economic growth, and intrigue human minds to attempt innovation. The field of AI technology is expanding at a rapid pace. The patent law with respect to AI must be adaptive and must seek to achieve and promote social and economic welfare. Negative social and ethical ramifications must be kept to a minimum or must be entirely avoided by taking the appropriate precautions. The patent application and examination procedures in India must evolve in accordance with the continuous advancements in technology.[28]

AI inventions can have a significant impact on a nation's innovation potential and economic growth. If no action is taken, AI might widen the digital divide globally which will only hamper the growth of a country in totality.

[27] cf Kankanala (n 4).

[28] Saxena (n 8).

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Challenges of Implementing Law on the Anarchic Side of the Internet: A Socio-Legal Study into the Dark Web and Darknet

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ABSTRACT
The internet, as we are all aware, is a brilliant use of technology and an abstraction to laypeople. Similar to the Moon, which as we all know has a dark side, the Internet is split into light and dark areas. The Light is only the surface-level internet, which is accessible to everybody with a device within arm's reach and is utilized for administration, amusement, e-commerce, etc. The dark side, commonly referred to as the dark web, is disorderly and runs on an unorganized chaos. Even though it is divided, we cannot fully isolate one from its influence on the other and categorize everything into good or bad. The deep web gives anonymity to people and gives them freedom of expression, unlike the regular internet which to an extent is regulated by governments all over the world. To keep the world functioning, many government officials rely on the deep web's anonymity veil for all kinds of communication and transactions. There are several groups of vigilante justice and whistle-blowers in our midst who use the deep web to their advantage for the betterment of society. Many people abuse this freedom for crimes and terrorism, both outside and online. Regulating and managing the deep web and darknet is the challenge the legal system is currently facing. In this documentation, we will try to understand the workings of the Dark web and how our policymakers are implementing legislation to regulate this space.

KEYWORDS
Internet; Darknet; Deep web; TOR; Cyberspace

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Introduction

The media that we consume daily has led us to believe that the Darknet and the Deep web are just a platform for criminal and illegal activities; Though most of this is true, we need to delve into the origins of the Deep web to understand the intention behind making such an obscure place. A criminal activity takes place where there's an opportunity to use cover-up and negligence, if the conditions are met it doesn't matter whether the action takes place in the real world or virtual. But unlike the real world, it is difficult to regulate the virtual world as it is vast and even though we can take action against it on a lower level we are mostly dealing with the World Wide Web which is harder to navigate and keep in check.

What are the Dark Web and the Deep web?

The Darknet or Dark web encapsulated non-indexed online content is encrypted by conventional search engines. The dark Web can be accessed only through specific browsers, namely TOR browsers. Unlike traditional websites functioning on a surface level, the dark web provides a great deal of privacy and anonymity[1]. These websites are widely known to cater to illegal activities, such as online black markets for drugs, the exchange of stolen and valuable goods, and other such things. Even though this reputation precedes itself, the dark web is used to keep private information safe and also give people a platform to

[1] Andrew Bloomenthal, 'Dark Web' (*Investopedia*, 26, February 2022) *available at:* <https://www.investopedia.com/terms/d/dark-web.asp> accessed 7 March 2022.

voice their political opinions without consequences[2].

The Deep web is the majority of the internet with hyperlinks also referred to as the standard browsers, that cannot be opened by technology but is up on the internet. The statistics show that there are close to 4 billion web pages that can be accessed on regular browsers on the surface internet[3]. As it is known the deep web can only be accessed through certain mediums it contributes to vindictive behaviour from individuals and groups, and the deep web as its nature shelters this behavior from authorities.

The distinction between the dark web and the deep web is important to be made. The dark web is another part of the deep web. The deep web has in addition come to be known as the invisible web or hidden web, it is what lies in the depths of the internet and not just the dark web[4]. The information on the deep web is not indexed and is encrypted normally which includes pages that do not normally come up in web searches. It provides information that usually requires the users to log in for transactions such as online banking, paid streaming services, hosting services, and private databases. On the dark web, everything conducted doesn't need to be illegal; information can be availed through databases such as subscriber-only services[5].

Origin of the Deep and Dark web

The Defense Advanced Research Projects Agency created the first message ever sent through computers connected by ARPANET in 1969. After a few years, ARPANET was joined by additional secretive networks. The unlawful storing of data became a problem in the 1980s as the internet became more widely used. An encrypted network was developed by the two research organizations in the US defense departments in the 1990s to protect communications that are sensitive and led by US spies. For a while, the system was used only by the government of the US and it was not known to common people. In the year 2000, Ian Clarke developed Freenet, software that allowed users access to the darkest corners of the web. The 2002 introduction of TOR by the U.S. Naval Research Laboratory offered users protection by masking their IP address and location. Originally intended to be used to conceal the identity of American spies infiltrating other countries, it was eventually made available to the general public. Satoshi Nakamoto introduced to the world Bitcoin, a crypto currency that is untraceable in January 2009. It became popular with dark web users due to its guaranteed anonymity.[6] Transactions carried out with Bitcoin are un-traceable in cyberspace, which allows criminals to engage in illegal activities such as gambling. With the introduction of Bitcoin,[7] the darknet experienced an increase in illegal transactions which helped the majority in the organization and participation of the Arab Spring in late 2010.[8] A Gawker-affiliated blog published in

[2] JeyongJung Mihnea mirea, victoria wang, 'The not so dark side of the darknet: a qualitative study' (*Springerlink*, 07 August 2018) *available at:* <https://link.springer.com/article/10.1057/s41284-018-0150-5> accessed 7 March 2022.

[3] Amit Balhara and others, 'Exploring and Analyzing Dark Web' (*SSRN*, 12 Jul 2021) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3879619> accessed 6 March 2022.

[4] ANDREW Bloomenthal, 'Dark Web' (*Investopedia*, 26, February 2022) *available at:* <https://www.investopedia.com/terms/d/dark-web.asp> accessed 7 March 2022.

[5] Andrew Bloomenthal, 'Dark Web' (*Investopedia*, 26, February 2022) *available at:* <https://www.investopedia.com/terms/d/dark-web.asp> accessed 7 March 2022.

[6] Varsha Jhavar, 'Legality of accessing Dark Web from India' (*IPleaders*, 23 May 2018) *available at:* <https://blog.ipleaders.in/legality-dark-web-india/> accessed 6 March 2022.

[7] Sinyong Choi and others, 'Illegal Gambling and Its Operation via the Darknet and Bitcoin: An Application of Routine Activity Theory (*Digital commons*, 28 FEB 2020) *available at:* <https://vc.bridgew.edu/ijcic/vol3/iss1/2/> accessed 11 March 2022.

[8] Erica Kastner, 'HISTORY OF THE DARK WEB [TIMELINE]' (*SOS Can Help*, 02 07 2020) *available at:* <https://www.soscanhelp.com/blog/history-of-the-dar

2011, an expose on the Silk Road known to its users as a dark web market that gave them easy access to buying and selling illegal drugs. This intern helped boost the traffic for the site and its sales. FBI started a campaign to completely shut down the program. The Federal Bureau of Investigation conducted a sting in successfully taking down Silk Road, marking it a memorable event as that site had grown up to a million users[9]. Over the years there have been many takedowns of such websites with collaborative work of various governmental organizations, but as there will always be a demand from such a crowd the dark web cannot be fully wiped clean.

Accessibility and navigation through the dark Web

Conventionally speaking the darknet and deep web are legal in the sense that they exist in the same cyberspace, but the activities taking place inside the dark web decide the legality of accession of it[10]. Reaching the dark web is no child's play as opposed to the normal web, different and special techniques, and tools are required to explore the dark web. Usually, there are two ways via the dark web and deep can be approached,

a) Using search engines that are different but accessed through regular browsers like Google, Bing, Safari, Firefox, Internet Explorer, and so on.

b) Using search engines that can only be accessed from a TOR like Browser.

Besides these steps, people knowledgeable in this field can develop their own custom-built using link-crawling programs and API programs[11].

The main way to gain easy entry to the dark web is by using specific search engines designed especially for this purpose. Deep websites that are utilized include economic data sites like FreeLunch.com, Copyright.gov, PubMed, Web of Science, and so on.[12] As most sites on the deep web are anonymous, users shall access them with TOR, to access websites with their "onion" domain[13]. It processes very slowly as it routes the connection through random servers at times to protect anonymity, which is layered onion routing technology that routes traffic through layers to conceal the identities of the users[14]. TOR browsers are not safe and secure though they exist on Android and iOS. There can be extensions, and add-ons found for TOR but are not safe. Sites like TOR can be used to navigate the deep web to acquire hidden content.

The Dark Web and the Aspect of Privacy

Though there are constant promises and deliverance of privacy and anonymity while using the dark web, it is not a hundred percent fullproof. To counter these and bring out the culprit, security experts and researchers con-

k-web#:~:text=ARPANET%2C%20also%20known%20as%20the,later%20on%2C%20the%20dark%20web.&text=This%20can%20> accessed 6 March 2022.

[9] Erica Kastner, 'HISTORY OF THE DARK WEB [TIMELINE]' (*SOS Can Help*, 02 07 2020) *available at:* <https://www.soscanhelp.com/blog/history-of-the-dark-web#:~:text=ARPANET%2C%20also%20known%20as%20the,later%20on%2C%20the%20dark%20web.&text=This%20can%20> accessed 6 March 2022.

[10] Amit Balhara and others, 'Exploring and Analyzing Dark Web' (*SSRN*, 12 Jul 2021) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3879619> accessed 6 March 2022.

[11] DakotaS Rudesill, 'The Deep Web and the Darknet: A Look Inside the Internet's Massive Black Box' (*SSRN*, 21 Oct 2015) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676615> accessed 14 March 2022.

[12] DakotaS Rudesill, 'The Deep Web and the Darknet: A Look Inside the Internet's Massive Black Box' (*SSRN*, 21 Oct 2015) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676615> accessed 14 March 2022.

[13] DakotaS Rudesill, 'The Deep Web and the Darknet: A Look Inside the Internet's Massive Black Box' (*SSRN*, 21 Oct 2015) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676615> accessed 14 March 2022.

[14] Debopama Bhattacharya, 'The Dark Web and Regulatory Challenges' (*IDSA ISSUE BRIEFS*, 23 July 2021) *available at:* <https://www.idsa.in/issuebrief/the-dark-web-and-regulatory-challenges-dbhattac harya-230721#footnote26_8929b7q> accessed 12 March 2022.

stantly develop new ways to identify the users. For example, a collective Anonymous group "hacktivists" in October 2011 Freedom Hosting, a website hosting service crashed through their Operation Darknet which reportedly housed more than 40 child pornography websites[15]. The FBI 2013 took control of Freedom Hosting and infected it with custom malware created specifically to identify the visitors. FBI supposedly had been using some type of computer and internet protocol address verifier since 2002 similar to that of malware used for taking down Freedom Hosting to identify suspects who were using proxy servers to conceal their location or anonymous servers similar to TOR[16]. Browsing dark websites and hidden can be achieved using hidden wikis. But to do more than browse such as conduct transactions, create a fake identity, set up a new email address, set up a new Bitcoin wallet, do proper research on vendors, and much more. A recent judgment by the US Supreme Court noted that even utilizing TOR might be an adequate reason for law enforcement to take any computer anywhere around the world. The government and Internet Service Provider would not uncover the activities of the user on the TOR network; however, they will recognize that a user is on the network, and they can and have the authority to inquire further into it[17].

The Dark Web's Legality and Its Users

The dark web lets people freely exhibit their views while maintaining the privacy of these free thinkers. To publicly engage in an honest conversation and relay their opinions sometimes it is necessary to have privacy on the web for those who use the internet. With so many people surfing the dark web, it also gives an easy leeway for the government to snoop around the dark net looking for information.[18]

Most people have heard about the dark web and deep web's existence through the internet, books, peers, and academics. Some use it just for gaining knowledge and keeping up with the happenings on the web. Some do not consider the darknet as an illegal separate side of the internet. The reasoning is that many journalist whistle-blowers use the darknet as an information source to leak about corruption and injustice of the system by using the anonymity immunity of the dark web.[19]

Labeling theorists believe terms used to describe individuals or groups influence them, and this in turn influences the behaviour put out by them. Darknet has also been a victim of such labeling but justifiably so. The majority of the branding comes from the government intending to push certain propaganda against the darknet because the darknet poses a threat to their regime[20]. Studies conducted by various experts and researchers show that those who use the dark web are aware of this devious labeling devoted to the dark web however, they do not behave in the manner that is supposedly associated with them. To the users, the most attractive aspect of the

[15] Kristin Finklea, 'Dark Web' (*Congressional Research Service* , 10 March 2017) *available at:* <https://a51.nl/sites/default/files/pdf/R44101%20(1).pdf> accessed 12 March 2022.

[16] Kristin Finklea, 'Dark Web' (*Congressional Research Service* , 10 March 2017) *available at:* <https://a51.nl/sites/default/files/pdf/R44101%20(1).pdf> accessed 12 March 2022.

[17] Paul Bischoff , 'How to Access the Dark Web Safely: Step-by-Step Guide' (*Camparitech*, 18 January 2022) *available at:* <https://www.comparitech.com/blog/vpnprivacy/access-dark-web-safelyvpn/> accessed 7 March 2022.

[18] Andrew Bloomenthal, 'Dark Web' (*Investopedia*, 26, February 2022) *available at:* <https://www.investopedia.com/terms/d/dark-web.asp> accessed 7 March 2022.

[19] JeyongJung Mihnea mirea, victoria wang, 'The not so dark side of the darknet: a qualitative study' (*Springerlink*, 07 August 2018) *available at:* <https://link.springer.com/article/10.1057/s41284-018-0150-5> accessed 7 March 2022.

[20] JeyongJung Mihnea Mirea, Victoria Wang, 'The not so dark side of the darknet: a qualitative study' (*Springerlink*, 07 August 2018) *available at:* <https://link.springer.com/article/10.1057/s41284-018-0150-5> accessed 7 March 2022.

dark web is the privacy and anonymity that comes with it. Users claim that though these prospects attract a lot of criminals still use the platform just to express their views and have built a community using it. One such notable site is Reddit wherein a subreddit named Dark Net Markets specifically caters to discussion on the goods and services on the black markets which can solely be reached using the networks such as TOR[21]. The discussions go from advising new users on the danger and prospect of using such sites and how to do secure surfing on the dark web. They also help users reach certain pages and relate them to their contacts inside. As we would expect having this forum on Reddit led to a lot of controversies. The FBI 2015 requested Reddit to hand over private details of the people running the subreddit and of the participants[22]. Subsequently, the subreddit was banned in March 2018 after Reddit changed its rules regarding using Reddit as an avenue to conduct trade of illegal goods and services.[23] Operation Hyperion was one such initiation taken upon by the US Government with the collaboration of other countries globally to take down the buyers and sellers of illegal substances around the globe in the year 2016, from October 22 to 28[24]. The darknet and deep web are filled with illegal activities that are worrisome to the general public as well as the authorities. It cannot be said that the surface-level internet is all good and not bad, but unlike the deep web, it is still easier to find the culprits on the surface net rather than on the deep net. Market transactions on the dark web are carried out with the untraceable crypto currency Bitcoin which in itself is pretty telling of the type of activities that are being carried out in this space[25]. More than half of the transactions taking place on the dark web are of the illegal kind, if not why goes the roundabout way to conduct a transaction on the dark web and use such means, the only explanation is to avoid suspicion.

Now on the flip side, anonymity can be leveraged to benefit the officials as well. They can conduct sting operations and tracking anonymously just as the criminals do. Law enforcement should rely on past activities and derive from the actions for the future. FBI has previously made malware that compromises servers which then can identify users of TOR. Similar tactics may be applied to further capture criminals and stop crimes.

The US military uses the anonymity of the dark web to its advantage before entering operations in a different state or environment and studying the conditions of the said state to avoid making mistakes while taking critical actions. There is evidence that suggests that the Islamic State and its groups used the dark web to organize and gather troops for their operations as well as to raise funds. To counteract their operations military can employ the same tactics[26].

[21] Kyle Porter, 'Analyzing the DarkNetMarkets subreddit for evolutions of tools and trends using LDA topic modeling' (*ELSEVIER*, July 2018) *available at:* <https://www.sciencedirect.com/science/article/pii/S1742287 61830 2020> accessed 16 March 2022.

[22] Kate Knibbs, 'Feds Want Reddit to Give Up Personal Info of Darknet Market Redditors' (*GIZMODO*, 30 MARCH 2015) <Info of Darknet Market R *available at:* <https://gizmodo.com/feds-want-reddit-to-give-up-personal-info-of-darknet-ma-1694608548edditors > accessed 16 March 2022.

[23] Lorenzo Franceschi-bicchierai, 'Reddit Bans Subreddits Dedicated to Dark Web Drug Markets and Selling Guns' (*VICE*, 22 March 2018) *available at:* <https://www.vice.com/en/article/ne9v5k/reddit-bans-subreddits-dark-web-drug-markets-and-guns> accessed 16 March 2022.

[24] Washington, dc, 'Law enforcement agencies around the world collaborate on international Darknet marketplace enforcement operation' (*US Immigration and Customs enforcement*, 31 October 2016) *available at:* <https://www.ice.gov/news/releases/law-enforcement-agencies-around-world-collaborate-international-darknet-marketplace> accessed 14 March 2022.

[25] DakotaS Rudesill, 'The Deep Web and the Darknet: A Look Inside the Internet's Massive Black Box' (*SSRN*, 21 Oct 2015) *available at:* <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676615> accessed 14 March 2022.

[26]Kristin Finklea, 'Dark Web' (*Congressional Research Service* , 10 March 2017) *available at:* <https://a51.nl/sites/default/files/pdf/R44101%20(1).pdf> accessed 12 March 2022.

Illegal Activities on the Dark web

The dark web caters to criminals such as hackers, hitmen, terrorists, paedophiles, and so on. In 2020 April an Italian man was arrested on allegations of an attack on his ex-girlfriend who was bound to a wheelchair after an acid attack by a hitman he hired on the darknet. The officials stated that the man paid 10,000 euros to hire the hitman from a website hosted on TOR. Many Terrorist groups have been known to use the dark web to communicate and organize their plans for attack and for funding their operations.[27]

Let us look into some of the crimes that are common concerning the darknet.

Selling drugs, dealing in arms and weapons, and exotic animals.

The most prominent sight that dealt exclusively with the sale of drugs and weapons was *the Silk Road.* They trade in cryptocurrencies like Bitcoin, Ethereum, and much more. Silk Road was shut down by the FBI in the year 2013, but soon after many similar websites started popping up. One such site was namely Agora which was also shut down in the year 2019[28]. There are still many websites that run and sell illicit, drugs, weapons, and exotic animals to buyers, namely Valhalla, Wall Street Market, Dream Market, SmokersCo, The Pot Shop, and many more[29]. In 2022 after a 4-month covert operation in India by the Narcotics Control Bureau (NCB) captured 22 people were captured in a drug trafficking network using the darknet as their playground with the help of crypto currency for conducting their transactions anonymously[30].

Human Trafficking

On the darknet, Black Death is a place where human trafficking is prominent. A British model was the victim of human trafficking on the dark web[31]. The reports from 2017 show that the survivors of human trafficking were put to work as sex laborers and labor trafficking. It shows that the dark net has helped increase crimes by pushing these sites into secrecy. They also maintain the sites by changing the URLs frequently[32].

Stolen Data and Leaked Information

In 2017 over 1.4 billion personal records were leaked on the dark web which was openly available on the open web. Some sites are even paid to carry out such action by rival groups. Even the information that is supposedly being protected under third-party privacy policies can be found on the dark web if you look in the right direction.[33]

Contract Killers for murder

On this platform, one can hire professional killers and assassins. There was once a leak in

[27] Debopama Bhattacharya, 'The Dark Web and Regulatory Challenges' (*IDSA ISSUE BRIEFS*, 23 July 2021) *available at:* <https://www.idsa.in/issuebrief/the-dark-web-and-regulatory-challenges-dbhattac harya-230721#footnote26_8929b7q> accessed 12 March 2022.

[28] Kaur S and Randhawa S, "(PDF) Dark Web: A Web of Crimes - Researchgate" (Dark Web: A Web of Crimes2020) *available at:* <https://www.researchgate.net/publication/338878596_Dark_Web_A_Web_of_Crimes> accessed March 16, 2022.

[29] Andy v, 'Dark Web Drugs Sites Links' (*Dark web magazine*, 9 January 2020) *available at:* <https://darkwebmagazine.com/dark-web-links/dark-web-drugs-sites-links/> accessed 13 March 2022.

[30] Rahul Tripathi, 'NCB arrests 22 in darknet drugs network bust after pan-India raids' (*The Economic Times*, 13 Feb 2022) *available at:* <https://economictimes.indiatimes.com/news/india/ncb-arrests-22-in-darknet-drugs-network-bust-after-pan-india-raids/articleshow/89536888.cms> accessed 16 March 2022.

[31] News desk, 'Beating Human Trafficking on the Deep & Dark Web' (*Cobwebs*, 27 July 2020) *available at:* <https://cobwebs.com/beating-human-trafficking-on-the-dark-web/> accessed 13 March 2022/.

[32] Kaur S and Randhawa S, "(PDF) Dark Web: A Web of Crimes - Researchgate" (Dark Web: A Web of Crimes2020) *available at:* <https://www.researchgate.net/publication/338878596_Dark_Web_A_Web_of_Crimes> accessed March 16, 2022.

[33] Paridhi Saxena and Sudhanshu Lata, 'The Darknet: An Enormous Black Box of Cyberspace' (*Manupatra*, Dec 2016) *available at:* <http://docs.manupatra.in/ newsline/articles/Upload/77A1EB6C-71A0-4899-90EE-5776E7F458D1.pdf> accessed 15 March 2022.

the website used for hiring hitmen, it showed contents of many accounts and contacts and addresses, messages, and over 200 photos of victims uploaded on the site. C'thulhu, Hitmen Network, and Unfriendly Solutions are some of the examples of sites that provide murderers and hitmen. These sites function with transactions on bitcoin, they also give out commissions if referred to friends[34].

Terrorism

Terrorism goes hand in hand with the functioning of the darknet. As terrorism requires anonymity to keep functioning, the darknet is a rather safe place for them. It is hard to keep up with the searches and organizing of these activities on the surface net without bringing up suspicion towards them[35].

Pedophilia or Child pornography

Regular pornography is acceptable with certain restrictions and regulations. Unfortunately, the dark web caters to the most disturbing group of individuals known as pedophiles. It is a violative act of exploiting children for abuse and sexual acts and abuse during sexual acts. It also includes compromising images of child pornography. Child pornography is widely accessible on the dark web[36]. Various research has found that child pornography creates immense traffic on these websites. Lolita City a site was taken down which contained over 15,000 members distributed photos and videos of child pornography with over 100GB of files[37]. Playpen was a similar site that the FBI took down in 2015, which was the largest child pornography site on the dark web with 200,000 members.[38]

Bitcoin Fraud

Bitcoin a nontraceable cryptocurrency is perfect for use in transactions relating to the dark web. It is the most convenient currency to be used on the darknet. With its popularity bitcoin gained traction among users of the surface web and dark web. A group named Distributed Denial of Services (DDoS) attacked 140 companies and tried to extort a ransom in the form of cryptocurrency Bitcoin[39]. After this many cyber-attacks started rising around the world on the darknet.

Torture Sites

There is a phenomenon called the RedRoom on the dark web, a site that claims to host live streams of abuse, torture, killings, rape, and child pornography. No one has ever found proper evidence of such a existence, even if the function is not plausible on web pages such as TOR's because of how slow it works[40]. An Australian Peter Scully had been paid a lot of money to film himself abusing and torturing young kinds and performing sexual acts on

[34] Porutiu Theodor, 'The 10 Most Notorious Cases On The Dark Web' (*VPN Overview*, 12 AUGUST 2021) *available at:* <https://vpnoverview.com/privacy/anonymous-browsing/notorious-dark-web-cases/> accessed 15 March 2022.

[35]Paridhi Saxena and Sudhanshu Lata, 'The Darknet: An Enormous Black Box of Cyberspace' (*Manupatra*, Dec 2016) *available at:* <http://docs.manupatra.in/newsline/articles/Upload/77A1EB6C-71A0-4899-90EE-5776E7F458D1.pdf> accessed 15 March 2022.

[36] Kaur S and Randhawa S, "(PDF) Dark Web: A Web of Crimes - Researchgate" (Dark Web: A Web of Crimes2020) *available at:* <https://www.researchgate.net/publication/338878596_Dark_Web_A_Web_of_Crimes> accessed March 16, 2022.

[37]Weirder web, 'Back in booming Lolita City: the online child pornography community is thriving' (*Weirder Web*, 6 June 2013) *available at:* <https://web.archive.org/web/20130610072640/http://weirderweb.com/2013/06/06/back-in-booming-lolita-city-the-online-child-pornography-community-is-thriving> accessed 15 March 2022.

[38]Fbi, ''Playpen' Creator Sentenced to 30 Years Dark Web 'Hidden Service' Case Spawned Hundreds of Child Porn Investigations ' (*FBI*, 5 MAay 2017) *available at:* <https://www.fbi.gov/news/stories/playpen-creator-sentenced-to-30-years?> accessed 10 March 2022.

[39]Sinyong Choi and others, 'Illegal Gambling and Its Operation via the Darknet and Bitcoin: An Application of Routine Activity Theory (*Digital commons*, 28 FEB 2020) <https://vc.bridgew.edu/ijcic/vol3/iss1/2/> accessed 11 March 2022.

[40]Deep web admin, 'What is Red Room in the Deep Web? – A Complete Red Room Experience Documentary Guide' (*Deep Web*, 28. Dec 2016) *available at:* <https://www.deepweb-sites.com/what-is-red-room-in-deep-web/> accessed 10 March 2022.

them. He produced many such series on his No Limits Fun series by his company. His videos featured many such acts and once allegedly where he made young girls dig their graves. He was said to be the world's worst pedophile.[41]

Revenge Pornography

It is the distribution of non-consensual explicit images of the individuals in compromising situations. This was a big issue even on the surface web. Many sites had been shut down. Google has removed revenge porn from its search results. A website called Pink Meth originally originated on the surface web but later migrated to the deep web. It admits user submissions anonymously, though it may now get apprehended[42].

Conclusion and Suggestions

There have been countless cases of targeted attacks on users, private networks, and corporate infrastructure. Some of the most popular types of attacks can be Phishing, DDOS, IP Spoofing, etc. Most of these attacks reach consumers through unused or abandoned network addresses, and monitoring the traffic on such networks can be one of the preventive measures. The Darknet is completely decentralized, and fundamentally anonymous, thus making it difficult to monitor the Tor networks. One way to go about this is to monitor the encrypted traffic from the Exit nodes (boundary) of Tor networks when they hit the internet. Law enforcement agencies have already apprehended numerous cybercriminals and seized Darknet marketplaces all around the world. Due to these takedowns of reputed marketplaces, there has been an increase in criminal-on-criminal attacks. Technology can play a vital role in this process by monitoring and securing access to niches of the dark net and detecting malicious threats, which may not be distinguishable to common people. Since anonymity is a major factor in all sectors of the deep web it is difficult for the authorities to know from whence, they access such sites and who becomes their victims.

Work PCs as well as home computers, laptops, etc should have proper protection and encryption. For big organizations where criminals delve into their systems, they should add more automated security systems to secure confidential information and those that could affect the economy greatly. Initiatives should be taken from the ground level to the international level to conduct studies and research and groups to tackle the issues. Educational seminar forums should jointly conduct exercises to benefit in the long run. If the authorities can match up the time and place of the trading activities it will provide them with evidence and a clean takedown of these trades. It is encouraged that there should be transparent and open communications concerning transactions of data at government and industry levels so that it helps them coordinate and work together to overcome challenges concerning the internet and cybercrime, especially in the 21st century. As capital is the main source of running any organization should look into ways that can monitor and stop any transaction taking place that the eyes of the government can't reach. Cutting the ties of financial string that hold together the infrastructure of the dark web is vital to keep in place or now to start implementing measures to curb further use of money or cryptocurrency to the advantage of criminals. The Surveillance Legislation Amendment (Identify and

[41]Harry Pettit, 'RED DEAD What is a red room on the dark web?' (*The US SUN*, Feb 1 2021) *available at:* <https://www.the-sun.com/lifestyle/tech-old/2249235/what-is-a-red-room-dark-web/> accessed 16 March 2022.

[42] Kaur S and Randhawa S, "(PDF) Dark Web: A Web of Crimes - Researchgate" (Dark Web: A Web of Crimes2020) *available at:* <https://www.researchgate.net/publication/338878596_Dark_Web_A_Web_of_Crimes> accessed March 16, 2022 .

Disrupt) Bill 2020[43], legislation passed by the Australian government 2021provides appropriate tools to take measures against the perpetrators of crime in cyberspace by modifying, collecting information about these criminal networks, and gaining control of the online accounts of such accused persons to gather intel on their activities done using these accounts. Every state ought to model these kinds of legislation or body similar and improved versions of it. Such drastic actions are called for in this day and age to serve the public well-being and bring about control in the anarchic cyber world.

[43] Karen Andrews mp, 'New powers to combat crime on the dark web' (*Australian Government*, 25 August 2021) *available at:* <https://minister.homeaffairs.gov.au/KarenAndrews/Pages/new-powers-to-combat-crime-on-the-dark-web.aspx> accessed 18 March 2022.

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The Role of TRIPS Agreement in Sustainable Development: An Overview

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ABSTRACT
Over the past decade, intellectual property is considered a category of property that includes intangible creations of the human intellect. We are living in the midst of the rapid development of science and technology, and this technological innovation has transformed the world into a global village. This paper attempts to analyze the relationship between the TRIPS agreement, sustainable development, and the use of technology in a robust manner. It examines technical and legal aspects of the Agreement, as well as some of the possible impacts on the environment and human rights. Despite many years of debate, it was a matter of dispute whether intellectual property is a natural right or of an individual right. Hence, only for better sustainable development, developed and developing countries came forward during the Uruguay Round of trade negotiators that a minimum standard for the protection and enforcement of IPRs was inserted on the international trade agenda in the form of the TRIPS Agreement. As a result of the TRIPS agreement, WTO members are now obliged to introduce an IP system to promote sustainable development. This study is generally exploratory in nature and secondary data have been collected from various published, unpublished sources and publications of the Government of India abroad. The objective of this paper clearly identifies the role of IPR, TRIPS, and sustainable development in a vigorous manner.

KEYWORDS
Intellectual Property; Development; Innovation, Knowledge; Agreement

Paper Code
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Introduction

Today, where we are living and where we are going to be living is a question of intellectuals. The essence of curiosity leads us to live in the century of knowledge and indeed the century of mind. This century offers us an ample ambitious agenda to empower the rural people through improved road and digital connectivity, access to clean energy, financial inclusion, inclusive growth for all the people, and most importantly the way of an innovative idea in this century is the key issue for the production as well as the processing of knowledge. Literally speaking, the development of a nation and its future will determine the basis of the ability to convert the knowledge into wealth and social good through the process of new and newer innovation, adoption of new technology, and the role of those inputs which are considered as the shifting from the low to high values. Therefore, knowledge is the primary resource in every sphere of human life, and the use of new technology provides tremendous opportunities for human development, full enjoyment, and certainty to touch the sky.[1]

In the present era of rapid development of science and technology, IPR is considered the proprietary right to enhance the pace of development. The world community has been greatly influenced by the protection of intellectual property rights during the last three-decade, and the importance of IPR is greatly increasing day by day. The leading international agreement establishing standards for the determination of rights in the information is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) which plays a vital role in terms of sustainable development. This TRIPS Agreement

[1] United Nations Development Programme (UNDP), *Human Development report 1999*, (United Nations, New York, 1999), p.57.

came in handy during the Uruguay Round of multilateral trade negotiations that established the World Trade Organization. It is very much significant that TRIPS is the first comprehensive agreement that establishes the minimum, enforceable standards for the protection of intellectual property rights in a meaningful way. Hence, it is noteworthy that to deal with the issue of protection, security, and legal issues, TRIPS is a vital step in harmonizing national and international intellectual property (IP) systems.[2]

From a broad sustainable development perspective, property and its protection plays vital importance from the days of Ramayana and Mahabharata. Since time immemorial, the concept of the property stood as one of the pillars of socio-economic development of life which leads to the ideal Indian life with the help of Dharma, Artha, Karma, and Moksha. With the pace of changing human life, dignity, and certain degrees of control over things, the intellectual property might relate to a number of new dimensions, and with high value.[3] The impact of intellectual property is now associated with various segments of modern advancement of science and technology behind the age scene of industrialization that does not cause any higher social, economic, and cultural problems. Moreover, the real value of health, education, nutrition, cultural policies and biodiversity, and the notions of other aspects of human life have undergone a drastic change. In matters of sustainable development, the use of high technology, synchronization of industrialization, and the practical revolutionary attitude of industrialization pave the way for the departure of the traditional concept of property. It is an important change brought by the IPR. In this context, the issues of liberalization-privatization and globalization, generation of employment, and the use of intellectual property is the prime concern, and they are going to become critically significant all around the globe. In this paper, we will emphasize some major areas of attention from a national and international perspective with the help of some bilateral trade negotiations.[4]

We will also focus on understanding the significance of the role of the World Trade Organization's (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and also propose to address some interfaces between intellectual property rights in the line with sustainable development. We would like to examine tersely the Indian position regarding sustainable development, and use of patents, and also to list those high valued practices, which would be compatible with IPR and those which would not be. Hence, this paper is divided into three different parts. In the first part, we will examine the role of intellectual property systems and the TRIPs Agreement. In the second part, the study will review the potential impacts of the TRIPs Agreements on the issues of the new innovative ideas and technologies, multilateral environmental agreements, and the Convention on Biological Diversity in particular. And lastly, part three focuses on the review of the TRIPs agreement in the light of the WTO perspective.

New Dimensions of IPR in Indian Legal System prior to Sustainable Development

Prior to our discussion, intellectual property can be considered as the single generic term that protects the application of ideas and information that are of commercial value. Intellectual Property is a temporary privilege over the products of intellectual activities, deter-

[2] The TRIPS Agreement, Article 7.

[3] J. P. Mishra, *An Introduction to Intellectual Property Rights* (Central Law Publications, Allahabad, Second Ed., 2009) 38.

[4] Pedro Roffe and Maximiliano Santa Cruz, "Intellectual Property Rights and Sustainable Development: A Survey of Major Issues" ROA/49 Project Document Economic Commission for Latin America and Caribbean (ECLAC, United Nations) (2007) 5.

mined by who controlled information and technology. The current IPR resume is encouraging commercialization of seed development, monoculture, and protection of new plant varieties, microorganisms, and genetically modified organisms.

Intellectual property rights are conceived as a tool to reward innovators and creators for their contributions to society, for a statutory period of time. They are intended to provide the necessary incentives for the generation and dissemination of knowledge as well as to encourage the transfer of technology. Basically, intellectual Property rights are covered under two headings: Copyright related rights and Industrial Property related rights. In most cases, copyright protects original literary, dramatic, musical, and artistic works, cinematography, sound recording, novels, musical scores, films, and photographs, as well as technology such as computer programs. On the other hand, industrial property rights protect the technology, patents, trademarks, and geographical indications.[5]Such new dimensions are as follows:

- Copyright
- Patent
- Trademark
- Industrial Designs
- Geographical Indications
- Layout Designs (topographic) of the Integrated Circuits
- Protection of Undisclosed Information.[6]

The above statement gives us a clear lesson in terms of the present juncture to adopt the international policy of sustainable development. Most developed countries have a strategic plan in place to achieve what they want or what they do not while developing countries solely rely on the people and their institutions to get results from the international dimensions. At this present juncture, it is vital that IPR opened new vistas in the life of the human being sitting in any corner of the globe, which automatically turns into a small village. At one level, there was a time when people used proprietary rights, and they were given primary importance practically, but that era is gone. Hence, the adoption of Liberalization-Privatization and Globalization came into force, and the way of thought-provoking process in the field of technology has greatly added fuel to its value. Now, people talk about the pecuniary rights which they have freely enjoyed until a few years ago, which are now controlled by the law and regulatory framework. Those rights which were treated as natural rights are now considered intellectual property rights. Among them, the tribals are the most affected by that traditional values.

The Interrelationship between Intellectual Property Rights and Country's Development

As normally understood, intellectual property (IPR) has a strong impact on the different aspects of human endeavour. Basically, the interrelationship between sustainable development and intellectual property rights is interchangeably contradictory in nature. The use of high technology and the advancement of globalization paves the way to bridging a gap between the two. On one side, most of the developed and developing countries are benefitted from the TRIPs Agreement. Hence, to attract foreign investment, such countries always depend on the long-term benefits through technology transfer, new innovation, and potential industrial development. On the other side, many countries adopt short-term benefits in the form of administration and enforcement of industrial inputs. In this context, potential conflict arises between the two when it comes

[5] P Narayanan, *Intellectual Property Law* (Eastern Law House Pvt Ltd., Kolkata, and Third Edn., Revised with Updated and Amended Statutes, 2017) 4.
[6] Cover Story, "Intellectual Property: Rights and Anti-Competitive Practices" Halsbury's Law (June 2008) 18-19.

to the exercise of intellectual property rights. It is a commonly accepted view that the use of IPR may produce anti-competitive effects through the monopoly power which is granted to the holders of the right. In this study, we will analyze the supporting value between the IPR and sustainable development. This produces the optimum results by promoting environmentally sustainable development through the use of geographical indications, capacity building, and technical assistance for policy coherence. This study also addresses the environmental and developmental impacts of patent protection by specifically focusing on the global agreement on the Trade-Related Aspects of Intellectual Property Rights (TRIPs), and tries to analyze those areas in which the Agreement will impact, either positively or negatively, sustainable development in developing countries such as country like India. It is equally important to note that the Paris Convention, Rio Convention are the best suitable example for the protection of intellectual property rights to ensure the global standard of living.

TRIPs and the Impact of Sustainable Development

Apart from the international treaty that marks the most important development in the field of economic, social, and environmental development of the international economic order, TRIPs Agreement is one of the elements of the Uruguay Round results, the package in which way it created the World Trade Organization. The drastic effect of the TRIPs is that it makes full provision with regard to many new and newer areas which were previously not covered by the IPR regime. Moreover, like the other developing countrys' perspectives, India is also one country that is forced to amend its existing laws on IPRs in light of the TRIPs provisions. It focused on both merits and demerits. Under the TRIPs provisions within the ambit of the Indian context, agriculture, health and education are likely to be affected from the perspectives of the Agreement. The essence of the Constitution of India is also against the TRIPs provisions whereas they are against the social and economic philosophy laid down in the preamble. Furthermore, as the process of liberalization, privatization and globalization came into force steadily and ultimately were challenged, some landmark cases were introduced where the Supreme Court declined to give remedy to the petitioners on the well-settled principle that a policy decision should not be interfered with by the Judiciary. The following landmark cases are Mithilesh Garg vs. Union of India,[7] Dalmia Industries vs. State of Uttar Pradesh,[8] Delhi Science Forum vs. Union of India,[9] etc. Most importantly, India is a signatory member country of the WTO, and hence, India is bound to follow the guidelines of the TRIPs provisions. The real facet of the value is that India is still not a powerhouse in terms of economic concern. Therefore, it is mandatory that India has to undertake suitable steps to maintain sustainable economic development by protecting the interest of the stakeholders, labour force, small traders, and local farmers as well as of the persons with intellectual pursuits. From that point of view, the TRIPs agreement creates a friendly environment for supportive technological innovation and welfare to the public interest through patents.[10]

As per the Patent Act, of 1970,[11] the patent allows the technology owners to recoup their investment in technology-oriented research by giving them the power to raise prices and reduce the supply of technology. It is very much important to note that if the research is innovative, and is based on technological de-

[7] AIR 1992 SC 443.
[8] AIR 1994 SC 2117.
[9] 1996 2 SCC 405.
[10] Simon Walker, "The TRIPs Agreement, Sustainable Development and the Public Interest" Discussion Paper 41 IUCN Environmental Policy and Law paper (2001) x.
[11] The Patent Act, 1970, (Act Id 197039 of 1970).

velopment then the IPR might help the technology owner to attain market dominance for a limited period with a resulting effect on competition in the market. Although subject to certain conditions, patent laws are applicable on the basis of the national legal framework, but it does not mean that there is no existing international regulatory framework. It is mentioned earlier that there is a number of multilateral treaties which seek to harmonize the law of patents are under the World Trade Organization's (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights, where patents are available for the signatory member countries for invention related issues. Although the term of the 'patent' is used in varied forms in relation to the different technologies, most importantly, the minimum duration is fixed by the WTO is that twenty years.[12]

It is a well-established principle that due to the paradigm shift of technology transfer among the developed and developing countries, IPRs are granted for specific issues with certain policy objectives. The IPRs should be protective but free from political interference. Hence, it is an urgent need that intellectual property should be conducive to the voice of the nations. The rules and regulations, needs, and objectives will change year after year and vary from country to country. Therefore, technological development must be determined on the basis of a clear evaluation as per the needs of the social, moral, ethical, and environmental investigations for the benefit of sustainable development.

Overview of World Trade Organization on TRIPS Agreement

In addition to the various intellectual property-related statutes from national and international perspectives, it is undergoing tremendous changes to bring them to harmonize with the corresponding laws in developed countries. It is gradually developed centuries after centuries in response to national and international needs. Before the adoption of the TRIPS Agreement, the world community witnessed significant changes in the field of patents. Several countries did not grant patent protection because they were not signatory member countries of the WTO.[13]

General characteristics of the Trade-Related Aspects of the Intellectual Property Agreements.

Article 7 of the TRIPS agreement states "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and transfer and dissemination of technology, to the mutual advantage of the producers and users of technological knowledge in a manner conducive to social and economic welfare, and to the balance of rights and obligation" with the help of numerous objectives in a brief, which are following: (a) minimum standard, (b) enforcement, (c) Dispute settlement, (d) developing country's transitional period, etc.

Influential Character of TRIPS Agreement over Technological Development

After the balance of payment crisis in the latter part of the 80th decade, liberalization, privatization, and globalization came into force, and at the same time, foreign collaboration provides a new height to the world economy. The introduction of foreign direct investment came forward steadily and to that same extent, the TRIPS agreement stands definitely as a remarkable and influential character of the technology transfer. After critically examining the basic objectives of the TRIPS agreement, it

[12] S. Singh, *Intellectual Property Rights Laws* (University Book House Pvt. Ltd. Jaipur, First Edition, 2015) 68-69.

[13] Biplab Kumar Lenin and Harsha Rohatgi, "Exceptions and Limitations of Patent Rights and Its Enforcement in India" 20 Journal of Intellectual Property Rights (2015) 297-304.

is worth mentioning that to protect the interest, safety, and security of the technology holder, it is an urgent need to use some supporting and strong enforcement mechanisms of IPRs. Arguably, it will undoubtedly provide a safe environment for technology transfer, control over the inventions, and the role of users proactively. Furthermore, it is necessary to mention that cultural, legal, moral, social, and economic aspects are often subject to the technological barriers of a strong IPR regime which can create a negative impact on the market strategies and economy of the country also. The barriers are as follows:

(a) high price;
(b) Can lead to adopting anti-competitive practices

Role of TRIPS Agreement and the Convention on Biological Diversity

The process of development is generally considered a multidimensional process and most of the time certain pressure and excessive use of technology can lead to environmental degradation. It is also worth mentioning that sustainable development is the integration of economics and ecology in the decision-making process. Hence, the concept of sustainable development was spelled out in the Rio Declaration 1992 on agenda 21. It provides numerous features in order to achieve the purpose of sustainable development. The salient features are as follows:

a) To use and conserve natural resources
b) Eradication of poverty
c) Financial assistance to the developing countries
d) To adopt the polluter pays principles
e) To adopt the precautionary measures
f) To adopt the principle of environmental protection etc.,
g) Inter-generation equity

Apart from these features, inter-generational equity, the doctrine of the pre-cautionary and the polluter pays principles are the core features of sustainable development.[14] From a theoretical perspective, the use of IPR has both positive and negative impacts on biodiversity. During the last several decades, the agricultural sector is the highest debatable topic in contrast to the IPR uses. The reasons behind the scene are the overplanting of new plant varieties and the displacement of many traditional verities are creating areas of monoculture in many developed and developing countries, and contributing to the loss of biological diversities and local planting techniques. In terms of the environmental issues, the adoption of the Cartagena Protocol on Biosafety is a significant development in the field of intellectual property rights and especially in the use of patents.

The Present IPR Model in the Indian and International Context

Since 1998, the world community has witnessed tremendous changes in terms of the use of IPR in connection with the conservation of the environment and biodiversity. In 1998, the World Intellectual Property Organization (WIPO) was established and WIPO has undertaken a programme that explores emerging issues of intellectual property that covers several features which are-

a) Protection of traditional knowledge, innovations, and creativity
b) Biotechnology and biodiversity
c) National and international character of intellectual property and sustainable development

[14] Birendra Kumar Tiwari, "Sustainable Development and Environmental Protection in India" in Vijay Bhatt and Pratap Mehta (eds.), *Indian Bar Review* (Bar Council of India Trust, New Delhi, 2016) 214-215.

d) Protection of folklore

Concluding Remarks.

Intellectual property rights and the use of patents in the name of sustainable development are not antithetical to each other. It is equally important to note that IPR requires absolute protection from the law in the interest of creativity and innovation, and such protection needs to be reasonable, allowing only such conditions that constitute the bundle of rights that is usually accompanied by the IPRs for the benefit of the environment and sustainable development. Hence, there is an urgent need for more research in this field and remarkable legislation for more protective measures.

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Understanding the Intersection of Artificial Intelligence and Intellectual Property Rights

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ABSTRACT
One of the most important topics of intellectual property law development is the relationship between artificial intelligence and the rights over human creation which is known as intellectual property rights (IPRs). Artificial intelligence systems have been gaining speed in today's rising tech-savvy culture thanks to increased technology, and it's only a matter of time before these systems start to make astounding discoveries without any human assistance. Intellectual property rights are a requirement for improved innovation or creative work protection. Artificial intelligence is currently an upcoming inventor and creator like Chat GPT or Bard. This urges the developers of certain Artificial intelligence to demand their IPRs. This essay studies the complex correlation between Artificial Intelligence and Intellectual Property Rights. National and International intellectual property rights treaties and conventions are also brushed upon in this essay. The authors discuss the support given to the developers and the struggles faced by them at the same time from the International point of view. The positives and negatives of offering IPR to Artificial intelligence are being contemplated. In-depth research on the relationship between Artificial intelligence and intellectual property rights has been attempted, explaining the need for one in another.

KEYWORDS
Artificial Intelligence; Creative Works; Interraction; Intellectual Property Rights; Tech-savvy

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"Artificial intelligence is raising a broad and multi-disciplinary range of policy questions. One of the questions is the property and intellectual property"

-WIPO Director General Francis Gurry

Introduction

"Artificial intelligence (AI), also known as machine intelligence, is a branch of computer science that focuses on building and dealing with a generation that may discover ways to autonomously make selections and perform movements on behalf of a human being."[1]Artificial Intelligence is known for its ability to produce any form of creative work in a way that humans are incapable of doing. AI has the potential to go through years of development due to the abundant possibilities. One such example is how almost all software websites and apps have started including tools like Auto Ducking for Audition and Premiere Pro which take on tiresome chores that previously devoured editors' time.[2]

Intellectual property rights can be defined as "Any and all rights related to intangible belongings owned via means of someone and are guarded in opposition to using without consent"[3]. IPR's primary goal is to promote innovation and creativity by incentivizing people

[1]Jen Mallia, 'Artificial Intelligence' (*Techopedia*, 26 June 2023) *available at:* <https://www.techopedia .com/definition/190/artificial-intelligence-a> accessed on 10 August 2023.

[2] Tj Leonard, *The role of AI in creative work* (Forbes, 7 November 2019) *available at:* <The Role Of AI In Creative Work (forbes.com)> accessed on 10 August 2023.

[3] Law StF, 'Intellectual Property Rights: Definition and Examples' (*St Francis School of Law*, 15 April 2021) *available at:* <Intellectual Property Rights: Definition and Examples - St Francis School of Law (stfrancislaw.com)> accessed on 10 August 2023.

and organizations to spend money on research and development and protect the inventors and creators by allowing them time-limited rights to regulate the use of their products. The purpose of IPR rules is to level the playing field for all market players and encourage healthy competition. Some worry that AI will ultimately replace humans and become more robust than humans, but others embrace AI breakthroughs and feel that it will improve the quality of human existence.[4] There is currently no specific legislation (in India or elsewhere) that addresses the most preliminary issue, "Who owns the intellectual property rights to a substance created by their invention?"

Unfolding Artificial Intelligence

Artificial intelligence is when computers, especially computer systems, mimic human intellectual abilities. The potential for AI to change how we live, work, and play makes it important. It has been used to successfully automate human-driven commercial operations like customer service, lead generation, fraud detection, and quality control. AI can do better than humans in a variety of fields. When it comes to repetitive and detail-oriented tasks, such as examining massive amounts of legal documents to ensure crucial fields are filled in accurately, AI systems usually complete tasks quickly and with few errors. [5] Artificial intelligence (AI) has come a long way since it was first developed, going from science fiction to a vital technology that is transforming businesses and people's lives all over the world. Because of developments in machine learning and natural language processing, AI is now a reality. The Tu-ring Test, created by Alan Turing in the 1950s to determine whether a machine could imitate human intelligence, served as the precursor to artificial intelligence (AI). The recent boom in AI is largely attributable to the development of deep learning techniques and large-scale neural networks, such as the Generative Pre-trained Transformer (GPT) series from Open-AI. The 2020 publication of GPT-3 is a brilliant example of how AI has progressed. Finally, the emergence of AI demonstrates the strength of human intellect and our never-ending search for knowledge. Accepting the benefits presented by AI while tackling its problems will be the key to unlocking a future in which AI acts as a force for good, propelling growth and prosperity for future generations.[6]

Intellectual Property: How has It Evolved over the Years?

Individuals are awarded intellectual property rights over their ideas and inventions. The owners are granted exclusive legal rights for the formation of intangible assets under law. The feature of intellectual property that is different from other forms of property is that it is an intangible asset that cannot be defined or identified by its own physical properties.

The word intellectual property typically refers to four distinct concepts that are frequently used interchangeably in the legal field: copyrights[7], patents, trademarks, and trade secrets. Industrial design rights, plant variety rights, geographical indications, and semiconductor integrated boards are a few other types of intellectual property rights that are observed. The initial patent-related legislation in India

[4][1]'IPR Law-History' (*Legal Service India - Law, Lawyers and Legal Resources*) *available at:* <https://www.legalserviceindia.com/legal/article-3581-ipr-law-history.html#:~:text=Origin%20In%20India%3A,as%20Act%20XV%20of%201859> accessed on 10 April 2023.

[5] Burns E, Laskowski N and Tucci L, 'What Is Artificial Intelligence and How Does Ai Work? TechTarget' (*Enterprise AI*, 10 July 2023) *available at:* <https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence> accessed 5 August 2023

[6] Gungor A, 'The Evolution of AI: Transforming the World One Algorithm at a Time' (*Bernard Marr*, 12 April 2023) *available at:* <https://bernardmarr.com/the-evolution-of-ai-transforming-the-world-one-algorithm-at-a-time/>accessed 5 August 2023.

[7] Copy right is an exclusive privilege provided to the creator for a certain period of time over their creative work, whether it be literary or artistic.

was Act VI of 1856 and the goal was to promote ideas and get innovators to divulge their creations' secrets.

In India, copyright law was first established in 1847 as a result of an East India Company-era ordinance[8].

WIPO

"The World Intellectual Property Organisation or WIPO is a global body for the promotion and protection of Intellectual Property Rights (IPR)". The fast advancement of technology in the era of globalization has resulted in tough rivalry. Thus, protection and assurance of rights against infringements of inventions, creations, and discoveries must be coupled with IPRs[9].

Trips Agreement

The TRIPS Agreement is legal acknowledgment of the importance of intellectual property and economic linkages. The TRIPS Agreement is the only international agreement that specifically addresses intellectual property rights enforcement, including requirements for gathering evidence, interim measures, injunctions, damages, and other penalties.[10]India accepted the TRIPS agreement with other nations that were developing at the World Trade Organisation (WTO). There are 164 countries part of the TRIPS Agreement. [11]

NIPR

The Indian government created the National Intellectual Property Rights (NIPR) Policy in 2016 as a visionary effort to direct the future growth of Intellectual Property and its Rights in the nation. It appeared to provide a formal system for carrying out and keeping track of changes in both national and international intellectual property rights.[12]

How AI and IPR Revolve around Each Other?

The emergence of robots that can independently solve problems and even perform autonomous creative actions, known as artificial intelligence (AI), is one of the most challenging developments in human history. Could an AI entity be the owner of a legal right? Since it is still true that an AI machine is incapable of doing innovative actions, the question of a right being "held" by an AI machine by virtue of its regular activity does not arise.[13]In an alternative scenario, could rights to human-made innovations be handed to AI robots? Can such robots be considered legal people in the same way, and their power to enforce intellectual property rights respected? Despite the fact that there is an increasing need for non-human machines in legal and business operations, they still need to be rigorously monitored. Even now, hiring and firing choices are made by AI, which suggests that people are becoming more accustomed to robots acting impartially in disputed decisions. Artificial intelligence hasn't been widely

[8] palaksinha2000, 'History and Evolution of IPR' (*Legal Desire Media and Insights*, 8 August 2020) *available at:* <https://legaldesire.com/history-and-evolution-of-ipr/> accessed 5 August 2023

[9] Admin, 'WIPO - World Intellectual Property Organisation. UPSC Notes for IAS Exam' (*BYJUS*, 3 December 2022) *available at:* https://byjus.com/free-ias-prep/wipo/#:~:text=The%20World%***20***Intellectual*%20Property%*20Organisation%20for%20WIPO*%20is%20a%20global,agency%20of%20the%20United%20Nations. Accessed on 10 August 2023.

[10] 'Intellectual Property: Protection and Enforcement'(*World Trade Organization) available at:* <WTO | Understanding the WTO - Intellectual property: protection and enforcement> accessed on 09 August 2023.

[11]'Ip and Frontier Technologies' (*WIPO*) *available at:* <https://www.wipo.int/about-ip/en/frontier_technologies/ai_and_ip.html> accessed 6 August 2023.

[12]palaksinha2000, 'History and Evolution of IPR' (*Legal Desire Media and Insights*, 8 August 2020) *available at:* <https://legaldesire.com/history-and-evolution-of-ipr/> accessed on 10 August 2023.

[13] (*H.R.5110 - Uruguay Round Agreements Act - congress.gov*) *available at:* <https://www.congress.gov/bill/103rd-congress/house-bill/5110> accessed 12 August 2023

used to produce content, and the outcomes have been largely disappointing.

E.g.: 1. A neural network program called AIVA (Artificial Intelligence Virtual Artist).

2. Because Naruto is not human, he is not an author under the Copyright Act.

3. Should Smart AI be granted intellectual property rights, and will such an arrangement serve the public[14]? In the same manner, the answer to this issue may eventually be linked to the future status of Smart AI. Implementing IPR in AI without process and safety records is a significant challenge.[15]

Can AI Invent by Itself?

DABUS is an artificial intelligence system that is alleged to have invented two items. DABUS patent applications have been submitted all around the world, with the claim that the ideas were generated by DABUS without the involvement of humans. The DABUS patent filings bring up complex AI-related IP policy issues.

The DABUS applications have been denied by several nations because the applicable patent rules need the identification of a human inventor. From a policy standpoint, it is important to consider whether IP law should continue to demand that a human inventor be identified if it should let an AI creator to be identified, or whether there are other options.[16]

DOES ARTIFICIAL INTELLIGENCE DESERVE TO BE GRANTED WITH INTELLECTUAL PROPERTY RIGHTS?

Experts trying to look at this from a technical approach identified that AI understood the prompts given to it and stitched together words that were instilled in it during its creation. There is no creative process that AI undergoes as humans do.[17]The AI development process includes the complete process of automatically constructing programs based on earlier intellectual efforts by humans.[18] This led to way too many legal IPR issues and a lot of loopholes were identified. People were confused about how they were going to deal with the copyright rights of an AI's work. There are so many instances where Artificial Intelligence has proved its worth much more in its short lifespan than humans ever could. For example, in a recent novel competition hosted by the Hoshi Shinichi Literary Award, out of the 1,450 entries, 11 entries were by AI.[19] Even though people believe that Artificial Intelligence can take over the entire world soon, they fail to understand that AI still faces way too many complications when it comes to filing for patents and copyrights.

The Struggles

Every country introduced "The Patent Act" in their constitutions to make the process of patenting and copyrighting easier than it was. The Patent Act explicitly states that for a patent to be granted, the inventor has to be a

[14] 'Naruto v. Slater, No. 16-15469 (9th Cir. 2018)' (*Justia Law*) *available at:* <.https://law.justia.com/cases/federal/appellate-courts/ca9/16-15469/16-15469-2018-04-23.html> accessed 6 August 2023.

[15] *Research handbook on the law of artificial intelligence* (Edgar Elgar Publishing Company, 2018) *available at:* <-Research Handbook on the Law of Artificial Intelligence-Edward Elgar Pub (2018).pdf> accessed on 11 August 2023.

[16] ' IP and Frontier Technologies' (*WIPO*) *available at:* <https://www.wipo.int/about-ip/en/frontier_technologies/ai_and_ip.html> accessed 6 August 2023.

[17] Chenlin Wei, 'Copyright protection and data reliability of AI written literary creations in smart city'(*Hindawi*, 9 August 2022) *available at:* <Copyright Protection and Data Reliability of AI-Written Literary Creations in Smart City (hindawi.com)> accessed on10 August 2023.

[18] Chenlin Wei, 'Copyright protection and data reliability of AI written literary creations in smart city'(*Hindawi*, 9 August 2022) <Copyright Protection and Data Reliability of AI-Written Literary Creations in Smart City (hindawi.com)>accessed on 9 August 2023.

[19] June Javelosa, 'An AI written novel has passed literary prize screening'(*Futurism*, 25 March 2016) *available at:* <An AI Written Novel Has Passed Literary Prize Screening (futurism.com)> accessed on 10 August 2023.

person. The definition of "person" in this context is "a human being". This was found to be the core reason for many of the filed patent and copyright requests to be denied. It has also been established that the title "inventor" should not be assigned to individuals who just performed regular activities in fulfilment of the diligence and/or reduction to practice of the invention while under the supervision of others. As a result, the human brain process is sacred in detecting imaginative activity and attributing such work to individuals.[20]

1. *Commissioner of Patents V. Thaler*[21]: One of the most recent cases regarding the patent rights of an AI named DABUS created by Stephen Thaler was filed on 17 September 2019 in Australia. After a long contemplation session, the verdict sent out stated that DABUS could not become the rightful patent owner of its creation.[22]This was further explained that it was clearly stated that an "*inventor*" is "*anybody who is involved in the decision-making of the processes of inventing a product*". As AI wasn't part of the decision-making, it couldn't be considered as an inventor.[23]
2. *European Patent Office decision of 27 January 2020 on EP 18 275 163 and European Patent Office decision of 27 January 2020 on EP 18 275 174*[24]: The European Union recently denied 2 patent files applied by Artificial Intelligence inventors. This brought back the highlighted point that an inventor must be a human being instead of a machine.[25]

Patent applications like "10 2019 129 136.4" and "10 2019 129 136.4" in Germany conclude the verdict with the same points and reject the filed Patents.[26]

The Support

When an AI system develops work without human participation, establishing who owns the copyright becomes more difficult. In circumstances when AI causes copyright infringement, problems occur owing to AI's lack of legal personhood. But through all of this, countries like India, Ireland, South Africa, and New Zealand have been granting IP laws to the programmers of AI. [27] The support that Artificial Intelligence receives when it comes to Intellectual Property Rights is very limited compared to the rebuttal.

1. *German Federal Patent Court Decision (November 11, 2021),*[28] After getting rejected by the German Patent Office, Dr. Stephen Thaler took the case to the Federal Patent Court. The court decided that artificial intelligence-generated

[20] *Research handbook on the law of artificial intelligence* (Edgar Elgar Publishing Company, 2018) *available at:* <Research Handbook on the Law of Artificial Intelligence-Edward Elgar Pub (2018).pdf> accessed on 9 August 2023.
[21] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 10 August 2023.
[22]Tim O'Callaghan and Travis Sheurd, *Commissioner of Patents v. Thaler [2022] FCAFC 62- AI as an inventor?(Piper Alderman, 26 April 2022) available at:* <Commissioner of Patents v Thaler [2022] FCAFC 62 - AI as an Inventor? - Piper Alderman> accessed on 9 August 2023.
[23] Ibid.
[24] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 9 August 2023.
[25] 'EPO publishes grounds for its decision to refuse two patent applications naming a machine as an inventor'(*EPO*, 28 January 2020) *available at:* <EPO - EPO publishes grounds for its decision to refuse two patent applications naming a machine as inventor> accessed on 10 August 2023.
[26] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 10 August 2023.
[27]Neha raj and MehdaBant, 'India: Legal Implications of AI-created works in India'(*Mondaq*) *available at:* <Legal Implications Of AI-Created Works In India - Copyright - India (mondaq.com)> accessed on 9 August 2023.
[28] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 9 August 2023.

innovations are patentable on November 11th2021. This was however accompanied by the need for a normal human to be designated as the inventor.[29]

2. *South African Patent Journal on 28 July, 2021;*[30] South Africa was the only country out of 4 other countries, namely the United States of America, United Kingdom, Germany, and South Africa, which granted patent rights to DABUS. South Africa received way too much backlash for the taken decision, but they didn't feel the need to retract it. [31]

Conclusion and Suggestions

A comprehensive study of the struggles faced by Artificial Intelligence in gaining the deserved Intellectual Property Rights has been done in this essay. AI seemed to face more disapproval and skepticism than any kind of assistance. This is clearly seen in the case of DABUS fighting for its rights. Out of the many countries where DABUS had applied for Intellectual Property Rights, most of them denied the AI creator the inventor rights[32]. This is deemed to be a major setback for the world of AI in relation to IPR. Programmers of AI spend their days working on the codes and developing their developments to achieve something that wouldn't have been possible any other day. However, due to the lack of proper IPR in our legal system at present, this doesn't appear plausible. The current IPRs are insufficient for the advancements we can observe in AI. But again, when an AI is in the process of repurposing copyrighted content in novel and creative ways, it has the potential to create transformative works. Determining the boundaries of fair use and the transformative nature of AI-generated works may need legal interpretation.[33]

Based on the above analysis the following suggestions can be made:

1. Beijing Intellectual Property Court (2017) Jing 73 Min Zhong No. 797 Civil Judgment. April 2, 2020:[34] In this particular instance, a camera that was attached to a balloon captured videos and pictures of many places. When queried who had the legitimate ownership, the court ruled that the person responsible for placing up the camera with the proper specifications would be given precedence. Using this as an example, the rightful ownership for any AI-generated creative work could be given to the person who programmed the AI or the one who entered the prompts into the AI.

2. Recently, there has been a rise in lawsuits against AI content creators, for example, Midjourney, in the United States of America. It has come to the attention of many visual artists that AI has been plagiarizing their work without offering any form of credit. Artists started filing these lawsuits in the San Francisco Federal Court.[35]This seems like a

[29] Kingsley Egbuonu, 'Latest news on the DABUS Patent Case' (*IP starts from Managing IP*, 11 July 2023) *available at:* <The latest news on the DABUS patent case | IP STARS> accessed on 10 August 2023.
[30] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 10 August 2023.
[31] Meshandren Naidoo, 'In a world first, South Africa grants patent to an artificial intelligence system' (*The Converstaion*, 5 August 2021) *available at:* <In a world first, South Africa grants patent to an artificial intelligence system (theconversation.com)> accessed on 9 August 2023.
[32]Kingsley Egbuonu, 'Latest news on the DABUS Patent Case'(*IP starts from Managing IP*, 11 July 2023) *available at:* <The latest news on the DABUS patent case | IP STARS> accessed on 9 August 2023.
[33] K.V.Kurmanath, 'How generative AI can challenge IPR, copyright and privacy' (*The Hindu- Business Line*,7 May 2023) *available at:* <How generative AI can challenge IPR, copyright and privacy - The Hindu BusinessLine> accessed on 9 August 2023.
[34] 'Artificial Intelligence and Intellectual Property Strategy Clearing House'(*WIPO*) *available at:* <Artificial Intelligence and Intellectual Property Strategy Clearing House (wipo.int)> accessed on 9 August 2023.
[35] Blake Britain, 'Lawsuits accuse AI- content creators of misusing copyrighted work' (*Reuters*, 18 January 2023) *available at:* <Lawsuits accuse AI content creators of

problem that can never be avoided and offering IP rights to AI machinery seems like a misinterpretation of our legal system. Thus, a rightful act can be passed protecting the works of both the human-content creators and the AI-content creators.

3. When Sophia, The Robot was able to get legal rights and representation that only humans are allowed according to law, why is AI still perceived with a backward glance? This proves that Artificial Intelligence deserves the right to get legal representation and hence, Intellectual Property Rights.

4. Corporate Companies are deemed to be separate entities from their owners and they are offered legal representation in the eyes of law. Why wouldn't the same principle be applied to an AI bot which is considered to be a separate entity from its developers? Therefore, nations should start developing ideas for providing IPRs to AI.

misusing copyrighted work | Reuters> accessed on 9 August 2023.

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The Significance of Protection of Intellectual Property Rights

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ABSTRACT
The promotion of innovation, creativity, and economic progress in a number of areas is greatly aided by the protection of intellectual property rights (IPR). The relevance of protecting IPR in today's globalized and technologically evolved society is examined in this article in many different aspects. It explores the fundamental concepts of intellectual property, such as patents, copyrights, trademarks, and trade secrets, illuminating the significance of these notions in motivating creators and innovators. The paper emphasizes the clear link between strong IPR protection and greater investment in research and development, global commerce, and the general improvement of market competitiveness by analysing current events and actual data. It also looks at the difficulties brought on by the digital age, where piracy, counterfeiting, and unauthorized use of intellectual property are now commonplace and call for stronger legal systems and international collaboration. The ethical considerations of IPR protection are covered as well, including how to strike a balance between encouraging innovation and ensuring that information and culture are accessible. This article emphasizes the critical role of governments, corporations, and international organizations in establishing an environment that fosters innovation and creativity through the successful maintenance of intellectual property rights through an interdisciplinary approach.

KEYWORDS
Globalization; Intellectual Property; Rights; Protection; Laws

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Introduction

Intellectual property rights primarily constitute the result of human intelligence, which is also known as “knowledge goods”. They have been classified generally into seven parts, each of which has immense economic potential and is crucial to the social and economic advancement of a country. There are several different types of intellectual property rights, often categorized into seven main types including Copyright, Patents, Trademarks, Trade Secrets, Industrial Designs, Geographical Indications (GIs), and Plant Variety Rights. We have brought our IPR laws up in pace with international standards due to the constantly growing IPR protection worldwide. Intellectual property rights play a crucial role in the trading of every nation in the modern world. The relationship between intellectual property rights and several other subjects, such as human rights and competition law, has been a topic of intense discussion in recent years. Technology's rapid change has presented lawmakers with a number of difficulties. Technology gives people a way to infringe on them. There is a higher risk of innovative ideas and work getting stolen without the consent of the respective author.[1]

Protection of Intellectual Property Rights

The protection of intellectual property rights (IPR) has emerged as a cornerstone for promoting creativity, promoting innovation, and guaranteeing fair competition in a connected and dynamic world. Intangible assets such as brand names, trade secrets, and creative works are all included in the wide category of intellectual property. The importance of protecting these rights cannot be stated since they not only give creators and inventors a framework for receiving the benefits of their efforts, but they also stimulate economic

[1]Boulware MA, Pyle JA, Turner FC, 'An Overview of Intellectual Property Rights Abroad' (1993) 16 Hous. J. Int'l L. 441.

growth, technical development, and the ongoing spread of information.

At its foundation, intellectual property rights protection acts as a catalyst for development by encouraging people and institutions to devote their efforts, resources, and skills to developing fresh concepts and innovations. IPR serves as a catalyst for innovation in a variety of fields, including technology, the arts, and entertainment, as well as medicines and other industries, by providing legal exclusivity and the chance for financial benefit. As a result, new industries are created, ground-breaking technologies are created, and cultural and aesthetic landscapes are enhanced. Regardless of the size of the organisation, protecting intellectual property is important because when it is well-managed and secured, it may become a significant commercial asset. Brands are frequently taken aback by every aspect of their intellectual property rights and the variety of ways they might use each one. Attorneys address important issues about intellectual property protection, highlighting its value for brands and offering practical advice for getting started.[2]

Economic Impact of Intellectual Property Protection

The connections between intellectual property protection and economic growth have sparked renewed interest in the academic and policymaking communities.[3] Regarding the former, new growth theory's focus on the part that technical advancement plays in the growth process where research and development (R&D) are performed to either generate new goods or improve current ones—has sparked a lot of academic research.

In the global economy, different nations can obtain more advanced technology directly or indirectly through repercussions. These channels comprise invention, licensing, commerce, foreign direct investment, piracy, and imitation.

The overall consequences of strengthened IPR protection on technology acquisition and aggregate growth are generally unclear since stronger IPR protection has a variety of, and occasionally conflicting, implications on the flow of technology through various channels. Stronger IPR protection may have different effects in different nations based on their levels of development as seen by their ability to innovate and imitate. The relationship between IPR protection and growth depends upon the level of development, as provided by initial GDP per capita, but in a non-linear way. Stronger IPR protection greatly boosts growth for low- and high-income countries, while there is no correlation for middle-income nations.

These findings support the idea that middle-income nations are less likely to gain from IPR protection because they imitate rather than innovate.[4]

Patents and Technological Advancement

Within the framework of intellectual property rights, patents are essential for promoting technical development. A patent is a legal document issued by a government that grants inventors exclusive rights to their ideas for a set period of time, usually 20 years.

This exclusivity encourages creators and innovators to share their discoveries with the general public, advancing technology and society as a whole.

[2] Ostergard, R.L., 2000. The measurement of intellectual property rights protection. *Journal of International Business Studies*, *31*, pp.349-360.
[3] Falvey, R., Foster, N. and Greenaway, D., 2006. Intellectual property rights and economic growth. *Review of development Economics*, *10*(4), pp.700-719.
[4] Kwan, Y.K. and Lai, E.L.C., 2003. Intellectual property rights protection and endogenous economic growth. *Journal of Economic Dynamics and Control*, *27*(5), pp.853-873.

Global Perspective on IP Protection

Globalization is not just taking place online; it is also active in the fields of business and law. Additionally, as innovations and information become more significant, our society is changing into what has been dubbed the "Information Society," in which knowledge and other intellectual output are the main sources of income.

As a result, more parties have been interested in enclosing these resources by tougher Intellectual Property (IP) Laws, leading to what some have referred to as a virtual land grab. This is in addition to, and opposition to, greater filesharing and recombination of existing works online. The protection of intellectual property (IP) has become more important on a worldwide scale in the interlinked world of today. A key factor in promoting innovation, economic progress, and fair competition is intellectual property, which includes patents, copyrights, trademarks, and trade secrets.

The necessity for international collaboration in IP protection has increased significantly as enterprises operate across borders and inventions transcend national boundaries. [5]

Global treaties and agreements, such as the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization, serve as a basis for harmonizing IP norms between nations. These agreements set basic requirements for IP protection, ensuring that innovators and creators are properly recognized and compensated for their contributions while simultaneously promoting the spread of information and technology.

Collaboration between international organizations, industry players, and governments is necessary for effective worldwide IP protection. It is encouraging to see efforts being made to improve copyright enforcement tools, expedite the patent application process, and stop piracy and counterfeiting globally. Additionally, current conversations emphasize finding a balance between enabling wider access to the necessary technology and giving inventors exclusivity, particularly in fields like public health and environmental sustainability.[6]

The difficulties posed by IP protection get increasingly complex as the digital environment develops and technology improves. The international community must be attentive in adjusting IP laws to handle new challenges, from safeguarding software and digital information to negotiating the consequences of artificial intelligence and biotechnology. The world can continue to profit from innovation while respecting the ideals of justice, creativity, and development on a global scale by encouraging a cooperative approach to IP protection.[7]

Intellectual Property Rights in the Digital Age

The digital revolution has made it possible to store, alter, and transfer data in ways that vastly improve how we previously replicated, shared, and stored information. Regarding data storage, digitization enables us to capture every piece of information in binary format, or in "O's" and "l's." This is how digitization makes it possible to record all works in a common format. Additionally to this widespread format, compression methods have increased our capacity to store data in ever smaller spaces. We are all aware that a twenty-six-book encyclopedia, which includes words as well as images and sounds, can be

[5] Lerner, J., 2008. Intellectual Property and Development at WHO and WIPO. *American Journal of Law & Medicine*, *34*(2-3), pp.257-277.

[6] Wiersma, W., Enclosures of the Mind: Intellectual Property from a Global Perspective.

[7] Fryer III, W.T., 2000. Global IP Development: A Recommendation to Increase WIPO and WTO Cooperation. *U. Balt. Intell. Prop. LJ*, *9*, p.171.

digitally stored on a single compact disc. The ability to change data in previously unimaginable ways is the second revolutionary feature of digital technology. Software programs allow us to isolate and edit any part of a work we want to manipulate once it has been digitized. Take a look at an example of a digital camera's image. Since the image is digital, it is possible to pick out certain hues, contrasts, or forms from it and isolate them from the rest of the image. Digitization also enables us to change data without deteriorating it. Once more, a digital photo serves as a superb illustration of this phenomenon. Unlike a standard touch-up, we can make unlimited changes to the image without losing any visual quality.[8]

The conveyance of data is the third aspect of this digital revolution. Data transmission is no longer restricted to one-to-one (such as telephone communication) or one-to-many (such as broadcasting) communications thanks to the spectacular advancement in communications networking. Data may be transmitted from any location to any other location thanks to the networking of communications facilities. The number of copies of a work that may be sent electronically is not constrained by physical restrictions. There is no limit on the number of individuals who may get the work or where they may receive it, either.

Conclusion

In conclusion, the preservation of intellectual property rights is of utmost importance in the knowledge-based, globalized economy of the present. The term "intellectual property" refers to a wide range of mental works, including innovations, creative creations, designs, symbols, names, and pictures utilized in business. By giving creators and innovators the incentives and rewards they require to keep expanding the frontiers of human knowledge, these rights play a crucial part in promoting innovation, creativity, and economic progress.

The promotion of innovation is one of the main advantages of effective intellectual property protection. People and businesses are more likely to put time, money, and effort into research and development when they are certain that their efforts will be protected by legal safeguards. New technology, goods, and services then start to appear as a result, advancing the economy and raising people's standard of living.

Additionally, intellectual property protection makes it easier to share information and knowledge. Society gains from a controlled system where ideas are shared, traded, and developed upon, eventually contributing to the expansion of collective human knowledge, by giving authors exclusive rights to their works for a certain amount of time.

We additionally observed that various channels (domestic innovation, trade, FDI, licensing, imitation, and piracy) can be used by individual nations to obtain better technologies and that the relative importance of these channels is likely to vary across nations depending on their specific levels of development.

Effective intellectual property protections are essential for luring investment and advancing global trade. Strong intellectual property laws tend to draw international investment because people feel more secure knowing their discoveries and capital will be well-protected. A framework for resolving disputes and upholding rights across international boundaries is also provided by clearly defined intellectual property laws, which improve the efficiency of international economic interactions.[9]

[8] Klein, B., Moss, G. and Edwards, L., 2015. *Understanding copyright: Intellectual property in the digital age*. Sage.

[9] Panagopoulos, A., 2003. Understanding when universities and firms form RJVs: the importance of intellectual property protection. *International Journal of Industrial Organization*, *21*(9), pp.1411-1433.

However, it's crucial to establish a balance between access and protection. Excessive intellectual property limitations might inhibit innovation, restrict access to crucial information, and impede the creation of solutions to urgent global problems. The length of protection, the extent of rights, and exceptions for the public interest, such as access to life-saving pharmaceuticals and environmental sustainability, must all be carefully taken into account to strike the correct balance.

The difficulties of securing intellectual property have grown increasingly complex in a quickly developing digital world. The fast spread of knowledge online, digital counterfeiting, and online piracy has created significant difficulties for traditional intellectual property enforcement. To overcome these obstacles and ensure that intellectual property rights are still applicable and effective in the digital age, international collaboration and ongoing legal framework adaption are required.

The importance of preserving intellectual property rights cannot be emphasized, to sum up. It encourages economic expansion, innovation, and knowledge exchange. To guarantee that intellectual property rights serve the interests of both artists and society at large, it is essential to strike the correct balance between protection and access.

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Unveiling the Veil: A Distinctive Approach to Analysing Trade Secrets and Patents

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ABSTRACT
A distinctive approach to the analysis of trade secrets and patents is taken, aiming to shed light on the complexities and nuances of these two distinct yet interconnected forms of intellectual property protection. Peeling back the layers of conventional wisdom and delving into the intricate dynamics between trade secrets and patents uncovers novel insights that challenge traditional perceptions and offer a fresh perspective on their roles in fostering innovation and safeguarding competitive advantage. Acknowledging the historical and legal foundations of trade secrets and patents recognizes their respective contributions to innovation and knowledge dissemination. However, it goes beyond these familiar narratives to delve into the hidden intersections, untapped synergies, and potential for convergence between these protection mechanisms. Taking an interdisciplinary approach, the paper weaves together strands from law, economics, technology, and business strategy. It explores how technological advancements have reshaped the landscape of intellectual property protection, blurring the lines between secrecy and disclosure in ways previously unexplored. By embracing the potential symbiosis between both forms of protection, businesses may unlock new avenues for innovation and differentiation while navigating the legal and ethical considerations that arise from such a novel perspective and unveiling the veil that shrouds trade secrets and patents, this paper offers a distinctive lens through which to perceive their intricate relationship, fostering an enriched discourse that stands at the intersection of tradition and innovation.

KEYWORDS
Trade secrets; Patents; Innovation; Protection; Competitive advantage

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Introduction:

In the realm of intellectual property (IP) protection, the dichotomy between trade secrets and patents has long been regarded as a fundamental choice business must make to safeguard their innovations. Yet, beneath the surface of this seemingly straightforward decision lies a complex tapestry of interactions, hidden connections, and potential synergies. Within the realm of IP, trade secrets and patents emerge as two distinct yet pivotal mechanisms, each offering unique pathways to safeguarding proprietary innovations. Trade secrets encompass a range of confidential and valuable information that businesses keep hidden from the public and competitors. This form of protection derives its strength from the maintenance of secrecy and is not subject to formal registration requirements. Patents, on the other hand, provide inventors with exclusive rights over their innovations for a limited period, in exchange for disclosing their inventions to the public. The imperative role of intellectual property in driving innovation, encouraging investment, and fostering market competition is widely recognized. Effective IP protection empowers inventors and companies to reap the benefits of their creations, thereby incentivizing further research and development endeavours.

This paper embarks on a journey to "Unveil the Veil". Traditionally, trade secrets and patents have been perceived as distinct paths—trade secrets veiled in secrecy and patents illuminated by disclosure. Trade secrets encompass the art of concealment, capitalizing

on confidentiality to protect confidential business information. Patents, in contrast, embrace the art of revelation, granting inventors exclusive rights in exchange for the public dissemination of their creations. However, as technology advances, markets evolve, and innovation strategies diversify, the lines that demarcate these paths have begun to blur. Our aim is to illuminate the untapped potential that arises when trade secrets and patents are viewed not as mutually exclusive choices, but as elements that can harmonize and amplify each other.

Historical and Legal Foundations

The historical origins and development of trade secrets and patents trace back through centuries of human ingenuity and the evolving need to protect intellectual creations. These distinct forms of intellectual property protection have shaped the landscape of innovation, fostering progress while responding to different imperatives.

The concept of trade secrets finds its roots in ancient civilizations where craftsmen, artisans, and merchants closely guarded techniques, formulas, and methods that conferred competitive advantages. Through oral traditions, apprenticeships, and closely-knit networks, these secrets were transmitted across generations, forming the bedrock of various industries.

The medieval guilds exemplified early forms of trade secret protection, enforcing stringent confidentiality among their members. The origins of patents can be traced back to medieval times when monarchs granted royal monopolies to inventors and creators in exchange for disclosing their innovations to the public.

The first official patent statute was enacted in Venice in 1474. This marked the formal recognition of the notion that, in exchange for sharing their inventions, inventors would enjoy temporary exclusivity.

The fundamental distinction between trade secrets and patents lies in their protection mechanisms. Trade secrets thrive in secrecy; their power rests on the premise that the information remains confidential. Protection is contingent on rigorous measures to maintain secrecy and restrict access. Patents, on the other hand, hinge on disclosure. Inventors disclose their innovations to the public through patent applications in exchange for a limited period of exclusivity. Trade secrets have historically played a vital role in preserving cultural and artisanal knowledge within closed circles while nurturing localized innovation. They have enabled small enterprises to compete with larger corporations by capitalizing on unique processes. Patents, by contrast, have incentivized inventors to share their inventions with the public, accelerating the dissemination of new technologies and ideas. The patent system has also fostered a culture of continuous innovation by providing inventors with the means to protect and profit from their creations. These two protection mechanisms continue to coexist and contribute to the intricate tapestry of intellectual property, each offering a unique approach to nurturing innovation and economic growth.

Technological Advancements and Changing Landscape

The evolution of technological advancements has significantly redefined the landscape of intellectual property protection, reshaping the traditional paradigms of trade secrets and patents. In an era of rapid digitalization and unprecedented global connectivity, the management of these protection mechanisms has undergone profound shifts. Previously, trade secrets were guarded within physical boundaries, and shared among a limited circle of individuals. However, digitalization has upend-

ed this paradigm, making it challenging to confine sensitive information within defined spaces. An illustrative example is the theft of proprietary algorithms through cyber attacks, which transcend geographic borders and challenge traditional notions of trade secret protection. Similarly, patents, once predominantly confined to physical products and processes, have adapted to the digital age. Innovations like software algorithms or business methods now blur the lines between tangible and intangible creations, necessitating novel strategies for protection. The global nature of digital technologies has also led to patent disputes spanning multiple jurisdictions, highlighting the complexities of enforcing exclusive rights in the interconnected world.

One prime example of this dynamic shift is the case of "Uber Technologies Inc. vs. Waymo LLC.[1]" This high-profile lawsuit in California involved allegations of trade secret theft related to self-driving car technology. The case underscored the challenges in protecting advanced technological secrets within a digitally connected environment, where complex algorithms can be inadvertently or maliciously shared across the globe. Moreover, the advent of open-source communities has further challenged the traditional notions of secrecy and disclosure. Projects like the Linux operating system thrive on collaborative innovation, blurring the lines between trade secrets and patents. Companies like Tesla, known for releasing patents for electric vehicle technology to encourage industry-wide growth, epitomize this new approach to innovation.

In this rapidly evolving landscape, where the lines between secrecy and disclosure are increasingly nuanced, businesses must navigate a complex terrain. The fusion of technological advancements, digital connectivity, and novel innovation strategies underscores the imperative for organizations to adopt adaptable and forward-thinking intellectual property protection strategies. As technology continues to reshape the boundaries of intellectual property, the coexistence and convergence of trade secrets and patents will be pivotal in driving innovation and sustainable growth.

Intersections and Synergies

Amid the apparent dichotomy between trade secrets and patents lies a realm of intriguing intersections and synergies that redefine the conventional narrative of intellectual property protection. While these mechanisms have distinct foundations, they are not mutually exclusive, and their combination can yield unexpected benefits for businesses and innovation ecosystems. By embracing a holistic approach that strategically leverages both mechanisms, businesses can create a powerful synergy that enhances their competitive advantage while fostering innovation.

Consider the biotechnology sector, where innovations often intertwine cutting-edge research with proprietary processes. Companies operating in this space have realized that a strategic combination of trade secrets and patents can yield optimal results. While patents provide a limited period of exclusivity and encourage collaboration through disclosure, trade secrets shield crucial procedural details, allowing companies to maintain a technological edge beyond the patent's expiration. Also, In the realm of software development, open-source projects offer a compelling example of how trade secrets and patents can coalesce. While the underlying code is often open for public use, businesses can retain proprietary methods, algorithms, and integration strategies as trade secrets. This allows for collaborative development while safeguarding the competitive differentiators that contribute to the project's success.

In essence, the boundaries between trade secrets and patents are not fixed, and their syn-

[1] No. C 17-00939 WHA (N.D. Cal. Jan. 29, 2018)

ergy holds immense potential. Businesses that navigate this space wisely can strike a balance between transparency and confidentiality, contributing to a culture of innovation that transcends traditional boundaries. As innovation ecosystems evolve, embracing these intersections becomes a strategic imperative, propelling companies toward a new era of sustainable growth and creativity.

Challenges and Considerations:

Navigating the combined terrain of trade secrets and patents presents a host of challenges and complex considerations that extend beyond their merits. As businesses strive to harness the benefits of both protection mechanisms, they must confront intricate legal, ethical, and strategic dimensions. Combining trade secrets and patents introduces potential conflicts in terms of disclosure requirements. Patents demand a comprehensive disclosure of the innovation, while trade secrets rely on maintaining confidentiality. Striking the right balance between these contrasting demands poses legal dilemmas, potentially jeopardizing one form of protection while adhering to the other. Trade secrets and patents, though symbiotic in potential, can impose conflicting prerequisites. The decision to seek patent protection necessitates disclosing key details, potentially rendering those aspects ineligible for trade secret status. Similarly, integrating patented technologies into trade secret-protected processes requires vigilance to prevent inadvertent loss of confidentiality. The convergence of trade secrets and patents may raise concerns about potential antitrust violations. Combining both protections could be perceived as anti-competitive behavior, particularly if used to create market entry barriers. Balancing intellectual property rights with fair competition requires a nuanced understanding of antitrust laws and their application. The strategic deployment of trade secrets and patents involves a comprehensive evaluation of the innovation's nature, potential lifespan, and market dynamics. Businesses must assess whether certain aspects warrant the comprehensive disclosure mandated by patents or the enduring secrecy conferred by trade secrets. The choice between these protections can influence an innovation's market trajectory and competitive positioning. The convergence of trade secrets and patents introduces ethical considerations related to transparency and fairness. The decision to simultaneously pursue both protections should not obstruct market entry for competitors or stifle innovation through exclusivity. The interplay between trade secrets and patents may intensify the potential for legal disputes. Parties may contest whether an aspect should be protected under trade secrets or patents, leading to complex litigation that requires a nuanced understanding of both forms of protection. In essence, while combining trade secrets and patents offers strategic advantages, it is not without its complexities. Businesses must navigate the legal, ethical, and strategic landscape with meticulous care. Legal counsel, IP professionals, and strategic advisors play a pivotal role in crafting a well-balanced approach that maximizes the benefits of both protection mechanisms while mitigating potential pitfalls. A harmonious integration of trade secrets and patents demands a holistic perspective that embraces the challenges and opportunities inherent in this dynamic relationship.

Business Strategy and Innovation

In today's intricate business landscape, the harmonious integration of trade secrets and patents can empower enterprises to forge a unique and formidable competitive advantage. These two distinct forms of intellectual property protection, often perceived as mutually exclusive, possess complementary strengths that, when strategically combined, can elevate innovation, differentiation, and market posi-

tioning. Intellectual property, including trade secrets and patents, serves as the bedrock of modern business strategies. Trade secrets excel in preserving critical aspects of innovation that provide a distinct edge, while patents offer exclusive rights and public recognition for ground-breaking ideas. By selectively utilizing trade secrets and patents, businesses can craft a dynamic strategy that safeguards both the concealed nuances and the publicly recognized innovations within their portfolio.

The synergy between these protection mechanisms extends beyond mere legal safeguards. Intellectual property influences decisions on product development, partnerships, licensing, and market entry. The calculated blending of trade secrets and patents empowers businesses to capitalize on the unique benefits of each. Trade secrets shield sensitive methodologies and formulas, allowing firms to maintain a competitive edge while patents offer a platform for showcasing technological prowess and attracting investors. A balanced approach involves a meticulous risk assessment, weighing factors such as the duration of protection, the risk of reverse engineering, and the potential impact of public disclosure. As trade secrets demand stringent confidentiality measures, the choice of what to protect as a trade secret should consider the difficulty of reverse engineering and the longevity of competitive advantage. Patents, with their finite lifespan, can secure certain aspects of innovation while potentially disclosing others. Crafting a successful intellectual property strategy necessitates the convergence of legal insights, business acumen, and technological awareness. Businesses should seek to strike a delicate equilibrium between trade secrets and patents, leveraging their distinct attributes to achieve holistic protection and innovation amplification. Ultimately, it is the thoughtful orchestration of these protection mechanisms that enables companies to thrive in an evolving marketplace, steering their trajectory toward sustainable growth and unparalleled differentiation.

The Delhi High Court recently addressed a critical question concerning the interaction between patents and trade secrets in the case of Prof. Dr. Claudio de Simone v. Actual Farmaceutica Srl[2]. The case centered around an individual who owned a patented formula for a drug under US law. While no corresponding Indian patent existed for this formula, the individual entered into a know-how agreement with defendant company for certain undisclosed information related to strain selection and blending ratios of bacteria, a trade secret. Upon expiration of the US patent, the know-how agreements were terminated due to unauthorized ingredient alterations by the defendant. Subsequently, the defendant manufactured a similar product and claimed it was based on the plaintiff's formula. Seeking an injunction, the plaintiff aimed to protect the undisclosed strain selection and blending ratio information as a trade secret in India. The Delhi High Court grappled with the central issue of whether information not covered in a patent can attain protection as a trade secret, particularly after the patent has expired. The court concluded that post-patent expiration, information linked to the innovation enters the public domain, rendering it ineligible for trade secret protection.

The case underscores the nuanced relationship between patents and trade secrets. While they both safeguard information, they are generally seen as distinct options for protection. However, the court's ruling supports the idea that they can be used in tandem, capitalizing on their differing forms and degrees of protection. The decision highlights the complexity of navigating the transition from patented innovations to trade secret protection once patents expire. This underscores the importance of strategic decision-making to max-

[2] CS(OS) 576/2019 at the HC of Delhi.

imize the benefits of both types of protection. By choosing what aspects of an invention to patent and what to protect as a trade secret, businesses can optimize their IP protection strategies to fully leverage the benefits offered by each. Therefore, the present case highlights the multifaceted nature of IP protection and the significance of choosing the right combination to safeguard valuable innovations effectively.

Conclusion

The exploration into the distinct relationship between trade secrets and patents reveals a rich tapestry of insights that challenge conventional perceptions while offering a fresh perspective on their roles in fostering innovation and safeguarding competitive advantage. Through the lenses of history, law, technology, and business strategy, this paper has delved into the complexities and nuances that arise when these two protection mechanisms intersect. The historical and legal foundations of trade secrets and patents showcase their individual contributions to innovation and knowledge dissemination. However, as technological advancements reshape the landscape of intellectual property protection, the clear lines between secrecy and disclosure have begun to blur. The digital age has ushered in new challenges and opportunities, prompting businesses to navigate the intricate terrain where trade secrets and patents converge.

This paper underscores that the combination of trade secrets and patents is not only viable but can also be strategically advantageous. In this context, the paper sheds light on how the harmonious integration of trade secrets and patents empowers businesses to forge a distinctive competitive advantage. By embracing the potential symbiosis between these mechanisms, companies can simultaneously safeguard sensitive proprietary information while showcasing their technological prowess to the public. The strategic orchestration of trade secrets and patents involves a careful evaluation of the innovation's nature, potential lifespan, and market dynamics. This balanced approach enables companies to navigate the evolving marketplace with finesse, achieving sustainable growth and differentiation. In the ever-evolving landscape of intellectual property, the discourse surrounding trade secrets and patents must continue to evolve as well. By bridging tradition and innovation, businesses, legal professionals, and policymakers can collectively shape a holistic approach to intellectual property protection that embraces the complexities, intersections, and synergies inherent in today's dynamic world.

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Conference Proceedings

Global Perspectives and Evolution of Concepts Related to Intellectual Property and Business

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ABSTRACT
In the Technical Session 'V' named 'Global Perspectives and Evolution of Concepts related to Intellectual Property and Business' the paper revolves around the significant aspects of the applicability of Article 27.2 of TRIPS to genetically modified organisms, abstract ideas of historical evolution of intellectual property, bridging between commercialization and conservation for sustainable utilization of biological resources, intellectual property as a tool to foster FDI, collision of AI with patent law, emerging areas of intellectual property rights protection, global policies and avenues for doing businesses, a vision on the growth of start-ups in India, moreover a socio-legal study on the trade secrets of Bodo Traditional clothing. Thus, this paper analyses the diverse perspectives and concepts in relation to Intellectual property and Business as well as examines how Intellectual Property Rights as a business tool build awareness and improve the availability of protection to the innovators as its prime concern.

KEYWORDS
TRIPS Agreement, biological resources, Foreign Direct Investment, Artificial Intelligence, Start-ups, trade secrets

Paper Code
CP01V12023

Introduction

In today's competitive environment, innovation is the mainstay for every business that leads to the development of intellectual property. Identifying, developing, and leveraging innovation provides competitive edges and aids in the long-term success of the company. Intellectual property is not limited to technology companies but is valuable for every business that invests huge sums in research and development for creating indigenous products and services.[1] This paper is intended to disseminate awareness on the role of IPR in protecting the rights of the creators/ inventors and thereby act as a catalyst for the expansion of IP in different disciplines of human civilization. Moreover, it is also intended to discuss the impact of IP on the socio-economic development of a country and thereby stimulate innovations. At the same time, the dynamics and complexities of the corporation are ever-increasing. Thereby various factors have necessitated regular review and amendments in the existing legal framework and business world.

The paper presenters of this Technical Session 'V' are the accumulation of various authors from all over India namely Mrs. Swapanil, Central University of South Bihar, Gaya, Bihar; Mrs. S. Syed Ali Fathima Nisha, Crescent University; Mr. Jayanta Boruah, NEHU, Shillong; Mrs. Archana P, Inter-University Centre for IPR Studies, CUSAT; Mr. Hrishikesh Rajkhowa, J.B. Law College, Guwahati; Mr. Poujiabthai Gangmeih, NEHU, Shillong; Mrs. Runa Sarmah, Jorhat Law College; Ms. Bhagyashree Das, Department of Law, Tezpur University and lastly, Ms. Preeta Brahma & Prof.(Dr.) Annam Subrahmanyam, Vel Tech Deemed University, Chennai.

Intellectual property rights have great importance in the growth of a country. Intellectual property law is different in all countries. In many developed countries, strict enforce-

[1] Relevanve of Intellectual Property for Business, The Economic Times, *available at:* <https://m.economictimes.com/small-biz/legal/relevance-of-intellectual-property-for-business/articleshow/49563911.cms> accessed 2 August 2022

ment of the IPR role has a huge contribution to economic growth. IPR promotes innovation which leads to economic growth. Nowadays, every business in the world is the creation of innovation. The current era has realized the importance of IPR laws. It is not only innovation but also the name that matters in today's world. The name carries huge value in the form of goodwill. Some companies just sell their name in exchange for a huge amount of money. Intellectual Property rights have a great influence on the financial improvement of a nation. The IPR can play both negative and positive growth in economic development. This paper analyzes the role of Intellectual Property rights in the economic conditions of businesses. This paper studies the relationship between IPR and the business sector. It is very important to protect the interest and rights of people to evolve in innovation and creation which is directly linked to the development and growth of the country.[2]

Analysis of the Key Concerns

In this Technical Session V, almost nine papers were presented in the seminar under the theme named "Global Perspectives and Evolution of Concepts related to Intellectual Property and Business". At first, the paper titled "Patent Protection to the Environment: An Application of Article 27.2 of TRIPs to Genetically Modified Organisms" was presented by author named Mrs. Swapanil. The paper highlights that the modern world is a sphere of technological advancement. Biotechnology is an agglomeration of various technologies where one is recombinant DNA technology or genetic engineering the biggest revolution that has happened in the modern world. Recombinant DNA technology is the art of manipulating an organism's genetic material to achieve a desired result. Countries have their own patent laws that provide patent protection for genetically modified organisms (GMOs). International treaties such as Trade Aspects of Intellectual Property Rights (TRIPs) assume patent protection for GMOs. According to the TRIPS agreement, interested countries allow curbing the development of dangerous technologies such as "Terminator Technology". Therefore the main challenge is the reduction of environmental damage which cannot be done within one country, so cooperation between them is needed. Article 27.2 of TRIPs encourages the development of more beneficial GMOs while preventing Member States from rejecting patents for environmentally harmful inventions. So, the most relevant issue is Article 27.2 which explains some exceptions to the patentability of inventions. Moreover, clause 27.2 is ambiguous and the standard is encrypted. In general, Article 27.2 of TRIPs raises many practical questions. Thus, according to my analysis, this paper discusses the interpretation of Article 27.2 and applies that interpretation to genetically modified organisms, highlighting the phrase "serious environmental damage" because people have a moral obligation to protect the environment for future generations. Therefore, there should be a clear interpretation of Article 27.2 which is required to prepare for the future. Moreover, conflicting policies of different countries can have a negative impact on the environment.

Secondly, the paper titled "Evolution of the Concepts of Intellectual Property and Business Studies; Historical Perspectives" was presented by author named Mrs. S. Syed Ali Fathima Nisha. This paper explained the concept of intellectual property to a company's or individual's collection of intangible assets that are legally protected from unlawful use or application. Moreover, an intangible asset is characterized as a non-physical asset owned by a firm or individual. It emphasizes the equal

[2] The Role of Intellectual Property Rights in Economic Development, Khurana & hurana, *available at:* <www.khuranaandkhurana.com/2021/03/10/the-role-of-intellectual-property-rights-in-economic-development/?amp=1> accessed 2 August 2022

protection of human intelligence with that of physical property.

Thus, intellectual property is owned and legally protected by a person or company from outside use or implementation without consent. This paper highlighted the legal safeguards of tangible and intangible property in most industrialized economies. It studied about the first records of Intellectual Property that was from Sybaris in Ancient Greece around the 6th century BCE. Therefore according to my analysis, this paper gave a comprehensive study on the evaluation of intellectual property from the national and international perspective and the future potential of India in the field of innovation.

Thirdly, the paper titled "Linking Commercialization with Conservation for Sustainable Utilization of Biological Resources under International Legal Perspective" was presented by author named Mr. Jayanta Boruah. This paper revolves around the central idea of the conservation of biodiversity across the Globe as biodiversity is always prone to misuse and loss. The main step required is the initiation of measures for the conservation and preservation of biological resources through limiting commercialization by the conscious world fraternity. However, the main challenge is that complete or absolute de-commercialization is not possible for human survival.

Therefore, the measure adopted to mitigate this challenge is the regulation of commercialization of Biological resources in a sustainable manner. It studied about the UNCTAD initiative framework for Bio-trade attempts to combine the normative framework of CBD, SDG, and MDG and at the same time supports the UNCCD, CITES, and the Ramsar Convention. Therefore, according to my analysis, this study tries to establish relationship between the conservation and commercialization of Biological Resources and the strengthening of the incentives and implementing sustainable practices about the impacts of Bio-trade on species as well as ecosystems.

Fourthly, the paper titled "Intellectual Property as a Tool to Foster Foreign Direct Investment in Indian Pharma Sector" was presented by author named Mrs. Archana P. This paper studied the importance of Foreign Direct Investment (FDI) for fostering development in the pharmaceutical industry of the country. It emphasizes the need to increase greenfield investments and reduce brownfield investments for better advancements, innovation, and technology in every sector where there is a market open for FDI. This paper mainly focuses on highlighting the importance of the health sector which is dependent on a strong pharmaceutical sector through FDI. It tries to bring in the need for intellectual property to act as a tool for fostering FDI in the Indian Pharma Sector. Therefore, according to my analysis, the main motive of this paper is to examine how FDI is important for the Pharma sector and the need for its improvement through infrastructure, technology, skilled professionals, and other parameters necessary for strengthening public health.

Fifthly, the paper titled "When Artificial Intelligence Collides with Patent Law: A Study Based upon WIPO's Draft Issue Paper, 2019" was presented by author named Mr. Hrishikesh Rajkhowa. The paper revolves around the issues put forward by WIPO in situations when AI collides with Patents in the field of IP rights and AI-based computer-generated works (CGW) in the field of Intellectual Properties. As such the paper enumerates how WIPO in the year 2019 formulated a WIPO Technological Trends Report to portray the future of AI along with warning the global policymakers thereby publishing of Draft Issue Paper on the aforementioned issues leading to discussions and thus inviting ideas and comments from widest possible audience.

Thereby the author undertakes to examine the impact of AI on the existing patent system and to find out solutions to the problems addressed in the Draft Issue Paper. Therefore, according to my analysis, the main point of this paper is that there is a need for a proper mechanism to examine the present legal standard of innovation and also to evaluate the patent eligibility standard. Further, emphasis is to be laid on the analysis of liability issues in independent AI infringement.

Sixthly, the paper titled "Emerging Areas of Intellectual Property Rights Protection: An Overview" was presented by author named Mr. Poujiabthai Gangmeih. The paper studies about the creation of new landscapes in intellectual property in the 21st century as to how mankind has been able to conquer outer space and pave the way for developmental activities involving intellectual property. This poses an inevitable question as to whether there are sufficient legal frameworks to grant protection to intellectual property in outer space by the existing international outer space law and intellectual property law. This paper examines the provisions of outer space law as a region where appropriation by the state is prohibited by international law and if there be any research and exploration, it must be carried out for the benefit of mankind and is based on the principle of 'res communist' whereas intellectual property laws are based on territoriality, which grants protection to the creator within the territorial boundary of a state by national law. Therefore, according to my analysis, the paper highlights the protection of outer space activities with reference to patents and copyrights but in reality, there are various conflicting stances as patent protections of space invention are recognized by some states based on their national legislation and agreement and some don't.

Moreover, same goes for copyrights in relation to remote sensing databases received a mixed response under the present regimes. Thus, there is a want for a specific legal framework that may provide for the balancing of socio-economic justice with that of intellectual property rights concerning space activities internationally.

Seventhly, the paper titled "Global Policies and Avenues for Doing Business, Foreign Investments, World Economic Order, Global Flow Currency, Blockchain, Cryptocurrency, etc was presented by author named Mrs. Runa Sarmah. This paper focuses on the blockchain technology crypto currency which has gained worldwide popularity and formed a new sphere of public relations that requires regulations and control from the government. It points out the fact that the absence of regulations creates uncertainty for industry players, opening them to unforeseen liability with enforcement authorities. Thereby, in the absence of any clarifications issued regarding how FEMA or any other law in India may touch upon the business of crypto asset services, it is a challenge and difficult for these businesses to navigate such frameworks autonomously. Therefore, according to my analysis, this paper throws light on the special features of blockchain technology functions and legal regulations in the Indian crypto market and various other countries. As the future of the crypto market is promising and reveals more opportunities to bring positive changes and progress to the e-business and e-payment sector there is requirement for strong regulations of business laws to deal with smart contacts and special laws to deal with digital assets.

Eighthly, the paper titled "Growth of Start-ups in India: A Vision of "Atmanirbhar Bharat" was presented by author named Ms. Bhagyashree Das. The paper mainly concentrates on the multiple reforms of the Government of India launched under the Atmanirbhar Bharat campaign which aims towards improving the business climate in India. India has emerged

as the third largest start-up ecosystem in the world after the US and China. It highlighted about the importance of making India self-reliant through Atmanirbhar Bharat to be competitive globally. It also throws light upon the advantages of having this mission which empowers local manufacturing, constructing local supply chains, and converting local products into global brands. Therefore, according to my analysis, the major findings of this paper are true that Indian start-ups and innovators play a vital role in the success of the mission as the mission itself has helped to overcome the crisis of the pandemic by being self-reliant towards achieving the agenda of Global village and the development of local business start-ups in the nation.

Ninthly, the paper titled "Trade Secrets for Bodo Traditional Clothing: A Socio-Legal Study" was presented by authors named Ms. Preeta Brahma and Dr. A. Subrahmanyam. The paper is centralized upon the study of the applicability of trade secrets in matters of traditional knowledge, legal protection, and recognition to the Bodo handloom weavers and the option of a suitable market to the traditionally weaven Bodo dresses with the presence of fair competition mainly concerning the Bodo handloom weavers of Dumbazar and Kumguri villages under Gossaigaon sub-division and Legislative Assembly constituency of Kokrajhar District, Assam.

It mainly spotted out the flaws in the existing IP laws that are incapable of providing inclusive protection to traditional knowledge. Moreover, precisely trade secret grants protection to the owners against the unfair use of information, and misappropriation of confidentiality. But India must ensure effective legal remedies to protect the interest of the people who created or originated an item by putting their skill and labor. Therefore according to my analysis, the major finding is that there is an immediate need to enact regulations so that India is adequately safeguarding the trade secret for fair competition in the market. Also, it is an agreed fact with the author that as far as the existing traditional knowledge is concerned, trade secret is limited as it does not protect outsiders and hence trade secret is not a comprehensive one to address the problem of traditional knowledge holders. Alternatively, it is suggested that local customary law is the best way to inclusive protection of the Bodo traditional clothing and also to ensure socio-legal justice for the weavers.

Suggestions:

Although, there is some theoretical and descriptive work has already been done on the impact of intellectual property rights on business/trade, yet, there is no empirical evidence on whether, how, and to what extent India's business is sensitive to national and international differences in intellectual property rights. Thus, it needs an in-depth study of Indian business in the light of IPRs to formulate a strategic and regulatory framework that can create a conducive environment for having a positive trade balance and thus promote economic development. In fact, there is requirement to analyze the impact of IPRs on India's trade. Therefore, it needs more systematic analysis and empirical testing in the field of crucial and worldwide importance.

Moreover, it can be said that a strong intellectual property protection is the main obligation in attracting knowledge-related or technological advancements in the business arena for further economic development. Thus, the government must adopt trade-promoting policies which expectedly will give a boost to IPRs.

Conclusion

In conclusion, it can be said that IPRs have a significant and stable long-run impact on Indian Trade and business. So, the need of the

hour is to bring more amendments in IP laws so that the same can help the business to become more competitive and manage IP-related risks to protect innovations, increase visibility, distinguish business from the competition, access technical and business information, and avoid the risks of third party.[3] Hence, there is a need to give further impetus to trade the categories of IPRs for the growth of the Indian economy. Furthermore, this paper concludes by establishing the essential link between IP and innovation (business and innovation), by reviewing the papers of various authors in relation to the aforementioned theme about how robust IPRs benefit all nations (developed and developing alike) and by explaining why robust IPRs are essential to maximizing IP a legitimate and fundamental component of trade agreements and global trade governance to achieve greater levels of innovation.

[3] Why Intellectual Property is Essential for Your Business, WIPO, *available at:* <www.wipo.int/sme/en> accessed 2 August 2022.

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Social and Economic Perspective of Business and Intellectual Property in India

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ABSTRACT
In today's scenario, incorporeal properties are considered intellectual property. The ideas, ideologies, and inventions of an individual regarding incorporeal property have typically changed the concept of property and created 'Rights' over the thing that is legally protected by the law. Due to industrialization, modernization, and privatization, every kind of property has a great value. In this context, IPR is also not an exception. IPR improves the global economy through the new edition of Copyright, Patent, Design, Trade Mark, Confidential Information, Trade Secrets, and know-how. This recent dimension plays a crucial role in the development of industry, commerce, and trade in the growth of creative efforts in almost every field of human endeavour. Hence, this discussion attempts to address the value of these species of property which is recognized as one of the important improvements of property in the field of law. But it has some negative aspects also. To reduce the negative impact, the various international and national body regulates IPR from time to time. This discussion is isproposed to address some issues and interface between intellectual property rights, competition law, its regulatory framework, and environmental impact over the invention, and the issues relating to the Trade-Related Aspects of Intellectual Property Rights briefly called the TRIPS to narrate the role of the Indian corporate sector in terms of IPR. This study is generally exploratory in nature and secondary data has been collected from various published, unpublished sources as well as the seminar papers presented by the presenters in the Fourth Technical Session which was held on 25th April 2022. The objective of this discussion clearly identifies the role of IPR and its role in a vigorous manner.

KEYWORDS
Intellectual Property,; Development; Technology; Industry; Environment

Paper Code
CP02V12023

Introduction

Intellectual property is a property that is developed by human intellect. Various statutes and judicial frameworks protect intellectual property rights in India. In the Indian scenario, various laws relating to Intellectual Property Rights are: The Copyright Act of 1957, The Patent Act, of 1970, The Trademarks Act of 1999, and The Geographical Indication of Goods (Registration and Protection) Act 1999, etc. Nowadays, IPR plays a pivotal role in economic growth. For the purpose of the business, various innovative ideas are developed. IPR protects these innovations and creations which are connected with economic growth and development. It also gives safeguard to the rights and interest of the creator and encourages research & information creation. It banned the competitors or anybody, exploiting the property without the permission of the creators. In this present juncture, intellectual property and its innovations, therefore, become an area for animated discussions in debates and seminars. It is in this regard that the two pioneer law colleges of Assam namely, Dr. Rohini Kanta Barua Law College of Dibrugarh and Nowgong Law College of Nagaon in its joint venture and collaboration with Aequitas Victoria Foundation in pursuit of academic excellence have organized the National Seminar on 24thand 25th April 2022 to deliberate on key areas associated with the theme.

The aim of this National Seminar on ***"Emerging Trends of Intellectual Property and In-***

novations in the Corporate Sector in the Contemporary World" pave the way for a digital India with the transfer of technology without pirates. It extends a great expectation from this seminar that this publication of research papers would be able to throw light on some specific issues for future generations. It paves the path of development through new innovations, explorations, and inventions within the ambit of technology in this modern age.

The two-day seminar is intended to disseminate awareness on the role of IPR in protecting the rights of the creators, and inventors and thereby act as a catalyst for the expansion of IP in different disciplines of human civilization. It is also intended to create a platform for discussion on the impact of IP on the socio-economic development of a country and thereby stimulate innovations.

On 25th April, technical session 4 was predominated by the sub-theme on *the* ***social and Economic Perspectives of Business and Intellectual Property in India***. This session was enlightened by nine paper presenters such as Madhusree Banerjee, Rahul Neema, Mrs.S P Vidyassri, Mr. Asif Iqbal, Mr. Edmund Syad, and Dr. Karavi Barman & Dr. Karavi Barman, Mr. Shudhangsu Shekhar, Mr. Shankar Pandey, Dr. Smarita Mohanty who have contributed to their valuable suggestions and fine-tuning of certain presentations intermittently. In connection with this seminar, it is a well-established view that the deliberation of the presenters was very interesting as they did not strictly adhere to an academic or intellectual milieu but also embraced field observation of those who were or have been engaged in carrying this information forward.

The session was presided over smoothly by renowned Resource Person Dr. AmarJyoti Sarmah, Assistant Professor of B.R.M. Law College, Assam.

Analysis of the Papers

After the gradual development of human civilization gradually industries and technologies developed. As a result, various economic perspectives faced challenges in the business and intellectual property field in India, some issues are explained by, the below-mentioned paper presenters. The set of presentations addresses wide-ranging issues that are pertinent to the Social and Economic Perspective of Business and Intellectual Property in India. During the two-day seminar, the scholars made presentations on diverse issues relating to Intellectual Property which would help the scholars immensely in formulating their research work better and also help to address various barriers so far as IP in the corporate sector is primarily concerned.

In her paper *"Gender Perspectives in Business,*[1] the author firmly calls for the need to remove gender discrimination from society. She addressed that a new class of young professionals with a variety of new idioms and ideologies has typically emerged in the countryside. In her paper, she focused thatbusiness can be led by any gender. In business, both men and women play great roles and responsibilities. Discrimination should not be encouraged based on sex, merits, potential, or profit-making, and strategies should guide the interest of the business and absorption by the individuals should be taken into account. Gender perspectives provide an outlook for people based on gender primarily looking into the social roles and interactions prescribed for the respective people therein. Gender is focused here on Functional Theory, Conflict Theory, and Symbolic Theory. Indian Jurisprudence provides various laws for the protection and security of working women froma business perspective such as Article 39 of the Indian Constitution, Sec.5 of the Equal Remu-

[1] Madhusree Banerjee, Department of Law, University of Calcutta (Hazra Campus).

neration Act, Sec. 149(1) of the Companies Act, Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal)Act 2013, Maternity Benefit Act1961.

According to the Author, a few steps should be implemented to ensure the safety of gender empowerment, avoidance of the gender pay gap, proper implementation of mentorship programs and training, workplace without any discrimination, etc. In this context, it seems that the author is, to some extent, vague and not able to connect the content of the topic of gender discrimination and IPR. The author only explains provisions related to women and various laws for the protection of women in the workplace. WIPO is committed to promoting gender equality and diversity in the innovative and creative sectors, across the wider world of IP, and within our own organization.

In his paper, *Compulsory Licensing of Patents and its Effects on the Economic Rights of a Patentee: A Critical Analysis*,[2] the presenter/ author observed that a patent is a legal document that is granted for an invention. In India, the use of a patent is not absolute and under certain circumstances, third parties could be allowed to use a patent by granting a compulsory license. In India, the compulsory license is granted by the Central Govt., through an official gazette in case of national emergency, extreme urgency, or public non-commercial use. The author refers to the need for a compulsory license for the COVID-19 vaccine in India. Because it is a ray of hope for financially challenged patents and owing to the economic condition, the provisions for compulsory licensing to some extent dilute the rights of the patent holders.

In her paper on *"A Critical Analysis of Patents in Special Reference to Geographic Indication of Indian Producers*" [3] the author analysed that the minimum requirements of the public with respect to the patented invention are not at all satisfactory. She argues that patented invention is not easily accessible and available to the common mass at a reasonable price. Hence, she stressed the importance of establishing a link to make the people aware of the use of geographical indication, more study on the patented articles, and channelization of the local product into the mainstream business to the family or the society. She suggested that a thorough understanding process must be necessary to know the importance of intellectual property rights which helps in quick and easier identification, planning, execution, and protection of creativity.

In *Safeguarding the Education System in India.*[4]inquiries into the system of education in pandemic situations, the role of business ventures, and the protection of data as a basic right of a person in general. Apart from his paper, he makes some bold suggestions to some extent that the Government should mandate educational institutions to conduct an impact assessment on the privacy issue.

In his paper, *Economic Activities vis-a-vis the Protection of the Environment under the Corporate Social Responsibility by Cement Companies Operating in the East Jayantia Hills District of Meghalaya*[5] the author examines that East Jayantia Hills District of Meghalaya is richly endowed with natural and mineral resources and it has been identified as one of the world's biodiversity hotspots.[6]He again asserts that if development is to flow to the citizens it should be people-centric, gender-neutral, participa-

[2] Rahul Neema Department of Law, PIMR (Indore).

[3] S P Vidyassri, Saveetha School of Law, SIMATS.

[4] Asif Iqbal, Centre for Juridical Studies, Dibrugarh University.

[5] Edmund Syad, Department of Law, NEHU, Shillong (Meghalaya).

[6] Charles Reuben Lyngdoh and Merostar Rani, "Introduction" in Charles Reuben Lyngdoh and Merostar Rani (eds.), Look East Policy: Impact on Northeast India (Akansha Publishing House, New Delhi, 2008.

tory, and adopt a Bottom-up planning approach. The paper also suggests ways to enhance economic prosperity with the help of industrialization but without environmental degradation. The setting up of large number of cement factories causes significant pressure on the environment, depletion of resources, and adverse impact on human health, wildlife, and the ecosystem. Hence, he suggested that there is an urgent need for the companies to balance their economic activities vis-à-vis their accountability to society for the protection of our Mother Earth.

In *Corporate Social Responsibility in Respect to Environment Protection,*[7] the author analyses that corporate entities visibly contribute to the social good. Hence, socially responsible companies use CSR to integrate economic, environmental, and social objectives with the company's operations and growth process. He also discussed the reasons behind CSR activities, its contributions to society, the role of the World Business Council for Sustainable Development in a row, its wings, principles and strategies, and the models of CSR in his paper.

The paper *Intellectual Property Rights and Protection of Women in Innovation and Creativity in India*[8] discusses contributions that have been taken by the women are natural innovators as they are creative, original, objective, responsible, and persistent which are important attitudes in response to the demand of the society. They try to highlight that women also actively participated in the field of intellectual property-related issues. They suggested that the gender difference should be taken as an advantage as women are able toperceiveanddothingsdifferentlythanmenwhereinliethepotentialcontribution to innovation and creation. WIPO is committed to promoting gender equality and diversity and every work can be done to systematically mainstream gender equality considerations, thereby paving the way for capacity.

In this paper, *Status of a Contract Worker in the organized sector in India*[9] the author examines the emergence of a contract worker, their role, and the labor force. This paper also provides suggestive measures to adopt a proper and clear New Labour Code to identify the status of contract labor for the economic prosperity of the country.

In the paper, *Challenges of Copyright & Cyberspace*[10] the author examines challenges under the rapid development of science and technology, using of software which led to great concern in intellectual property rights, especially in copyright. She discusses various issues related to the Digital Right Management System in a literal manner by citing case laws. This paper makes suggestions to harness the potential benefits that will accrue from the use of the internet. Hence, she wants stronger legislation to ensure the protection of the copyright in a specific manner.

Suggestion and Findings

With the rapid development of science and technology and changing times, something new has been introduced to the concept of the human property. It has provided new and newer dimensions in the modern world which has recently entered the age of science and technology leaving behind the age of industrialization. After the adoption of the New Industrial Economic Policy in 1991 in the Indian scenarios, the practice of IPR has deliberately changed. The growth of many forms of technology and innovation in this present century is the key to improvement in the production as well as the processing of knowledge. It has

[7] ShudhanshuSekhar, Chanakya National University.
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led to a new challenge to understand the relationship between the field of intellectual property rights, development, and the protection of the environment as well as to convert knowledge into wealth and social good through the process of innovation which will determine in the near future.

This new age of industrialization witnessed tremendous development and a great departure from the concept of traditional forms of property from our day-to-day lives. The concept of the survival of the fittest concept and the power to acquire property becomes immensely extended among the people. Hence, the notion of property becomes a hot cake accompanied by the rapid pace of industrialization and technological development. At this present juncture, the concept of property is a subject matter of ideas and innovation, inventions that have occupied the centre stage in our human endeavour.

In this context, the property now embraces our entire society within the ambit of material and immaterial, tangible and intangible, and fungible and non-fungible things. Moreover, the developments pave the way to bring about new concepts of property in the name of Intellectual Property Rights and trade-related Aspects of Intellectual Property Rights.[11]So, from the above analysis of all the papers presented by the presenters from across the country in this national seminar, some important suggestions and findings are sorted out.

Conclusion

In the context of the above-mentioned discussed issues, the collected research papers make an impactful endeavor to address different findings, connotations, and dimensions in the light of the present era which witnessed a tremendous development of intellectual property rights in the countryside. Moreover, research scholars across the country as well as contributors try to establish and peep into various problems of development and its barriers relating to the field of modern education, technologies, the country's economy, socio-economic problems, trade commerce, and various issues. To encourage *Intellectual Property Rights and innovations in the corporate sector in the contemporary world,* the government of India has adopted many initiatives to protect the lives of the stakeholders in banking, corporate, art, and culture and also to create a favourable environment. Unfortunately, we are still not in good touch, and a hundred miles to go.

[11] J.P. Mishra, An Introduction to Intellectual Property Rights (Second Edition, Central Law Publication, Allahabad, 2009) 38-39.

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Influence of Cyber World and Artificial Intelligence on Intellectual Property and Corporate Sector in India

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ABSTRACT
As the first sophisticated computers started to decode gigantic breaking machines during World War II, the significance of artificial intelligence became apparent. In 1956, the renowned John Mccarthy came to the realization that artificially intelligent computers were required in order for humans to be able to interpret and solve problems before humans could think through and evaluate a scenario. The ability of a computer or computer-controlled devices to carry out tasks that are only capable of intelligent individuals is known as artificial intelligence (AI). Creating a sustainable economic foundation for discovery and creation, as well as promoting new technology and creative works, have always been the core objectives of the intellectual property (IP) system. From a purely financial standpoint, there is no reason not to utilize IP to reward AI-generated innovations or creations, provided that other goals of the IP system, such as "just reward" and moral rights, are disregarded.
Today's businesspeople use AI approaches to drastically enhance IP services provided by their workplace, including AI trademark search and impartial patent translation.

KEYWORDS
Artificial Intelligence,; Intellectual Property; Computer; Invention; Creation

Paper Code
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Introduction

Artificial intelligence is a machine that interprets signals via input received by programmed data and responds in the desired way as output and is capable of carrying out specific tasks in sync with machine learning without being programmed daily and having been fed information. Humans need not interfere in the process as their work and tasks are carried out by the machine. Machine learning is a broad variant of artificial intelligence in which they both respond to the desired output in sync with each other. Machine learning is the backbone of AI and is fed with huge amounts of data which later on carries the specific task when prompted. An example of machine learning could be scanning a document or captioning a photograph or it could be interpreting different languages.

Artificial Intelligence (AI) has been adopted in various applications. It has been very successful in many subject areas such as image recognition, natural language processing, speech recognition, etc. AI is also used to detect suspicious network traffic, analyse malicious attacks, identify attack sources, etc. Considering adversarial activities in the real world, AI also faces many new challenges in cyberspace security, such as novel attacks that could evade AI-based detection due to the vulnerability of AI.

In Technical Session iii six paper presenters presented their research papers. They are as follows:

1) Dr. Hina Kausar, School of Law, Presidency University, Bangalore, and Ms. Nair Aathira Baburajan Presidency University, Bangalore jointly presented a research paper on “Challenges of Implementing Law on the Anarchic Side of the Internet: A Socio-Legal Study into the Dark Web and Darknet”. In this paper, they beautifully analyzed that the internet is a resourceful extension of technology and an abstraction to laymen. There’s a dark side to

the moon, likewise, the internet is also separated into light and dark. The light is just the surface-level internet that is used for governance, entertainment, e-commerce, etc. With easy access to anyone who has technology within their arms reach. The dark side, also known as the dark web is unruly and functions under orderly chaos. Although it is separated, we cannot truly disconnect one's influence on the other and segregate them into righteous or unethical boxes. The deep web gives anonymity to people and gives them freedom of expression, unlike the regular internet which to an extent is regulated by governments all over the world. Many government officials rely on the deep web's anonymity veil to conduct all sorts of communication and transactions to keep the world running. There are several groups of vigilante justice and whistle-blowers in our midst who use the deep web to their advantage for the betterment of society. But this freedom is misused by many for crimes and terrorism in the real world as well as in cyberspace. The difficulty faced within the justice system with regard to the deep web and darknet is the regulation and management of the same, it is no easy feat to control such space while we still have difficulty dealing with surface-level internet.

Initiatives should be taken from the ground level to the international level to conduct studies and research and groups to tackle the issues. To make a move bigger levels are necessary to tackle the issues the dark web presents, such as sting operations, planting spyware inside websites, or creating new sites to lure in buyers and sellers to set up their shop. If the authorities can match up the time and place of these trading activities it will provide them with evidence and a clean takedown of these trades. The government has the power to make surveillance tools that will help in putting forth monitoring software for the transactions that take place on the internet, which will help in locating social connections with people and can uncover illegal activities if any.

2) Mr. Mansing Dhondiram Bisure of Vidya Pratishtan's Vasantaraao Pawar Law College, Baramati, Pune had insightfully discussed "Intellectual Property Rights: Emerging Issues & Challenges In Modern Cyber Space". The advancement and popularity of e-commerce and e-business have become important for companies and organizations to protect their intellectual property rights online. These days cybercrimes are not only limited to committing fraud and identity thefts but extended to copyrights and trademark infringement as well. Various kinds of IPR-related cybercrimes are committed to make money or to draw traffic to their sites. Cyberspace is becoming a hub for intellectual property rights infringement of various e-businesses. Certain practices by website operators have resulted in violation of intellectual property rights or other entitlements of other website operators. Hence, it has become important that people are aware of the illegal usage of their websites and pages. With the advancement of cyberspace, copyright, and trademarks are not limited to conventional intellectual property but have extended to intellectual property over the internet. There are various guidelines provided by international conventions and trea-

ties to protect IPRs online which are helping e-commerce and e-businesses to expand without any harm to them. This research paper analyses some of the legal challenges faced by intellectual property in cyberspace, limiting its scope to some major conditions in the copyright domain for the time being. Copyright is threatened by the emerging digital presence of technology, particularly the 'internet', where the distribution of digitally copied files has the potential to occur at jet speed and nil cost.

3) Mr. James. J of Dr. MGR Educational and Research Institute deemed to be University had enlightened on "Cyber Threat in the IP and Corporate Sector". The cyber threat of IP is a number of converging factors that dramatically challenge the traditional ways organizations have protected IP. Digitalization of huge amounts of valuable corporate information and increasing interconnectivity – both outside and inside "protect" corporate networks-through multiple devices have made IP far more portable and accessible. So it makes IP increasingly vulnerable, and a very tempting target to attack. This is highlighted by recent PwC research into global cyber-security, which reported on the increasing incidents of IP theft – data and other assets- and pointed out that most security incidents are caused by company insiders. IP is the lifeblood of many organizations. It fuels innovation, growth, and differentiation. IP loss is among the hidden or less visible costs of an attack, along with lost contract revenue, potential devaluation of a company's trade name, and damaged or lost customer relationships. It is very difficult to get a good picture of the real extent and cost of cyber attacks. The key threats are to critical national infrastructure, the government's classified information, and the intellectual property of private enterprises. Neither the government nor private enterprises have acted sufficiently to protect intellectual property. Management in private enterprises almost always prioritizes customer experience over cyber security.

4) Ms. Sorna of SG CMR Law College, Bangalore had beautifully analyzed "**A Critical** Analysis on Cyber Threats in Intellectual Property and Its Management by Corporate in India". This research paper presents the concept of intellectual property in India and the issues of cyber threats on IPR in the form of infringement which are copyright infringement, patent infringement, and trademark infringement. The Indian government provides basic measures and regulations regarding the registration of copyrights and patents. The individual or corporation can register it according to the policies provided by the government of India. The documents and other details of products can be submitted before the registration of parents, and trademarks. In a court of law, proving the evidence is an important part that certain products belong to them. When compared to rural areas, in urban areas a lot of cybercrimes and threats are taking place which is due to the technology being developed more in those areas. The intellectual property issues in cyber security are the fraud or threats that happen through computers or any other digital devices. An individual has to create innovation technically and culturally, to encourage the new creation.

5) Mr. Trideep Borsaikia Tezpur University Ms. Arunima Kalita Tezpur University, had jointly presented on "Scope For Branding Dora Baran Gamosa Through Intellectual Property Rights And Technology". This is exploratory research on policy discourse on local innovation systems through integrated communication strategy and differentiation strategy for Dora Baran. The value proposition of the groom stole/apparel 'Dora Baran' is created by its contemporary designs, motifs, symbols, yarn richness, and, made-to-order provision between the bride and the finesse of customary institution xipinie. The business environment for the sector includes about 1.26 million domestic weavers operating through household looms, selfhelp groups, unorganized handloom sheds, handloom cooperatives, and the regulatory authority of the Directorate of Handloom & textiles, and, policy intervention by the Ministry of Handloom textile & sericulture, Government of Assam. This sector is severely constrained by product consistency, trust & deceptive quality of yarn, distressed sales, and an infringement by Ghani. The intrinsic challenges are depleting artistic weaving skills, revenue leakage from the Assam region, the stagnancy of income through weaving vocation, and, certain health hazards attributed to the weaving skills and age of the weaver. As a result, the traditional cultural expression is vanishing due to neo-societal norms and the weavers are switching to commercial weaving, short-term livelihood activities with little scope of sustainability within the local innovation system of the Assam region. The authors propose policy intervention of synchronizing branding strategy with registration for design rights, rule of law, and, block-chain technology solutions to imbibe authenticity and reliability across the supply chain. This apparel can be an avenue for the handloom weavers to increase and sustain a regular household income. Dora Baran is a relatively newer product compared to other differentiations of artifacts such as Gamosa and thus, the product can showcase premium artistic skills. This product needs close coordination between buyers and weavers in a single platform and thus, it creates a niche or customized market.

6) Ms. Anisha Sharma of NERIM Law College, NERIM Group of Institutions. Mr. Aryan Sharma Amity University, Gwalior had jointly presented "An Analytical Study of Intellectual Property Rights: Cyber Threats In Cyberspace". They threw plenty of light on intellectual property rights (IPRs) which are legal rights that cover the privileges granted to people who are the creators and inventors of work and have developed something through their intellectual creativity. Intellectual property refers to the protection of the creation of the mind like inventions, artistry work, scientific innovations, designs, symbols, names, images, etc. These rights are provided to every individual to avoid duplication of their work which is protected by copyrights, patents, and trademarks. With the rapid development in cyber technology over the years, IP benefited the world of IPR and subsequently gave rise to numerous cyber threats to people across different states. The growth of IP resulted in unlicensed content in several ways like hyperlinking, framing, met tagging, spamming, etc. Gradually, cy-

berspace is becoming more of a threat to the world of intellectual property rights and certainly has given rise to copyright and trademark infringements by way of copying the content and selling it online unlawfully. Globally, intellectual property rights are subjected to several treaties and conventions, especially the Berne Convention, Rome Convention, and WIPO Copyright Treaty focusing on the protection of domain names, copyright infringement, trademark infringement, etc. Similarly, numerous laws in India have been enacted for the protection of IP, including the Copyrights Act of 1957, and the Information Technology Act of 2000, which have prevented the risk of copyrights, information technology (intermediaries guidelines) rules 2011, and section 79 act, 2000. Subsequently, there are several contributions from the side of the judiciary in the protection and promotion of intellectual property rights. Thus, in light of the above, the research paper highlighted all the aspects of cyber threats in cyberspace and remedial measures on the intellectual property rights available to every individual for the significant violations of their original work.

7) Ms. Sreelakshmi M S, Inter-University Centre for Intellectual Property Rights Studies, Cochin University of Science and Technology had beautyfully analyzed “The Patent Conundrum: Inventorship and Ownership of AI-Generated Inventions”. The core and overarching goals of patent law are to provide an incentive to the inventor for their creative effort, and disclosure of ideas to the public, in the sense that they strike a balance between the inventor’s interest and public interest. With the rapid pace of technological advancement, research in artificial intelligence has identified increasingly diverse AI applications around the world. This trend of machine inventions was not anticipated by the global patent system, and they pose a challenge to traditional legal principles and concepts, which frequently fall behind technological advancement. One of the most basic facets of these AI programs is that, even though the programmers provide the instructions, the final creative output is sometimes generated by intelligent machines making their own decisions based on complex neural networks. In view of the above, identification of the true and original inventors as well as the creative minds behind the work can be difficult. Moreover, the debate over who owns an Artificial Intelligence-generated or created invention took a new turn recently after the decision of the European Patent Office (EPO) and the groundbreaking decision by the Federal Court Of Australia on the DABUS case. In this regard, this research focuses on inventorship and ownership issues in relation to AI-generated inventions, within the existing IP framework. The research paper has tried to resolve these issues by comparing and analyzing different legal systems, jurisdictions, and patent offices. In addition, this paper reviews relevant leading case laws and the opinions of experts. Finally, the paper includes the author's suggestions and recommendations, which include a framework model for determining ownership and inventorship of inventions generated by AI.

Summary

The development model in India includes a huge amount of technological advancement which includes AI as well. From online shopping to the use of online car services, the country saw a rapid technology change. The issues in a developing country like India are of much more concern as it is the basic infrastructure that needs to be revised upon. There are well-established IP laws in India on different components like copyrights, trademarks, patents, designs, etc.

However, there is no particular act or provision to regulate AI specifically. The existing laws do not cover the ambit of AI and are based on the old intellectual property types like books, creative writing, and discoveries. The ambit of AI is much more complex and needs to be addressed in a particular way, different from the existing regime. Under the Patents Act of 1970, computer programs, business methods, or mathematical formulae are not considered patentable inventions.

Conclusion

Artificial Intelligence has become an integral part of human lives. With the use of AI, data can be modified or collected in a much better and time-efficient manner. The usage has boomed with the use of new technological tools. Therefore, it becomes an urgent need to make proper laws concerning the same. AI is a technology that is moving at a fast pace and it is crucial to examine and analyze the issues and challenges which might surface with it. IPR is already an expanding area. With the technological approach, many factors are being introduced under its ambit.

AI being one of them should also be looked into. The present situation of AI and IPR is challenging. The implementation of IPR in AI with procedure and safety logs at hand is a real problem. There is also an issue of understanding the different features of AI, which becomes a more rigid problem in developing countries like India, which are still going through rigorous changes in technology.

Presently, it is through the interpretation of the courts that the issues revolving around AI and IPR are being addressed. However, there is a need for structured, analyzed, and clear rules and regulations. Amendments should be made to existing IPR laws to address the issue of AI as well. With the use of AI, there can be more benefits for future inventions. India has been potentially looking forward to ways to do so. *Niti Aayog* in a discussion paper in 2018, described the importance of AI in healthcare, education, infrastructure, etc.

The benefit of such technology during the pandemic was also recognized and it was suggested that AI should be made to meet the criterion under the Indian Patent Act to facilitate faster operation in data processing, screening, publication, examination, medical support, hearings, and application filing during pandemic. However, there is still a long road to follow. Not only the laws need to be regulated but better infrastructure for the implication of such rules also needs to be determined.

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The Role of Traditional Knowledge in Sustainable Development and Implications of Intellectual Property in Pharmaceuticals

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ABSTRACT
Traditional knowledge (TK) encompasses the accumulated wisdom, skills, and practices passed down through generations within communities. It plays a pivotal role in environmental conservation and is vitalfor sustainable development, which seeks to meet present needs without compromising those of future generations. Both at international and national levels, efforts are being made to ensure sustainable development that respects the rights of future generations while addressing current needs. Traditional knowledge supports these mechanisms and is a valuable asset for indigenous and local communities, making it a candidate for protection through intellectual property rights. This article explores how traditional knowledge contributes to sustainable development and delves into the implications of intellectual property, especially in the pharmaceutical sector. The analysis is based on a doctrinal methodology, utilizing secondary sources, published and unpublished data, as well as seminar papers presented during a session held on April 24, 2022

KEYWORDS
Intellectual Property Rights; Pharmaceuticals; Sustainable Development; Traditional Knowledge

Paper Code
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Introduction

Traditional knowledge is the bedrock of identity for most local communities. It constitutes an essential aspect of their social and physical environment, demanding preservation. The exploitation of traditional knowledge for commercial gains without proper recognition can lead to misappropriation and harm the interests of its rightful custodians. This underscores the need for ways to safeguard and nurture traditional knowledge for sustainable development. Intellectual property represents the creative output of human intellect, including innovations and inventions. India, like many other countries, has legal provisions in place to protect intellectual property rights. Traditional knowledge, which is deeply interwoven into everyday life, including pharmaceuticals, must also be safeguarded. However, traditional knowledge often orally transmitted and with deep historical roots, doesn't fit neatly into conventional intellectual property systems. Nonetheless, the preservation, protection, and promotion of traditional knowledge-based innovations and practices are especially crucial for developing nations. In this contemporary context, the significance of traditional knowledge for sustainable development and its recognition as intellectual property are subjects of vigorous debate and seminars. On April 24 and 25, 2022, a two-day National Seminar was conducted jointly by Nowgong Law College of Nagaon and Dr. Rohini Kanta Barua Law College of Dibrugarh in collaboration with Aquitus Victoria Foundation. The seminar, under the theme "Emerging Trends of Intellectual Property and Innovations in the Corporate Sector in the Contemporary World," aimed to shed light on key issues and raise awareness regarding Intellectual Property Rights.

One of the sessions held on April 24th, focused on the role of traditional knowledge in sustainable development and the implications of intellectual property in the pharmaceutical industry. Seven paper presenters, including Ms. Shivika Sahu, Ms. Vasundhara Kaushik, Mrs. Zennat Parbin, Mrs. Sampa Sengupta,

Mrs. Monmi Gogain, Mr. Tarun Kumar, and Dr. Purnima Khanna, explored various facets of traditional knowledge, traditional knowledge in medicine, the impacts of Intellectual Property Rights on traditional knowledge, and the protection of traditional knowledge.

Analysis of the Papers

There are numerous legal instruments in place to protect intellectual property, covering inventions, literary and artistic works, designs, and plant varieties. However, India lacks substantive legislation dedicated to safeguarding traditional knowledge. The paper presenters highlighted various issues related to traditional knowledge and the urgent need for its protection. They also shed light on the establishment of the WHO Traditional Medicine Centre in India and the implications of intellectual property on traditional medicine. Their research work is expected to aid in formulating measures to protect traditional knowledge and broaden the scope of Intellectual Property Rights concerning traditional knowledge.

In her paper titled "Traditional Knowledge of Local Communities and Their Contributions as Cultural Heritage," Ms. Shivika Sahu, of DAVV, Indore, emphasized the importance of protecting the traditional knowledge of local communities. Traditional knowledge, often transmitted orally from one generation to the next, has been vulnerable to misappropriation. Local communities have nurtured this knowledge, but they have often not received recognition or a fair share of the benefits reaped by multinational corporations. The author explored various strategies employed to protect traditional knowledge through positive and defensive mechanisms. India has played a significant role in documenting traditional knowledge, thereby centralizing the protection of traditional knowledge within the Intellectual Property System. The author raised the question of whether Intellectual Property Rights can genuinely protect traditional knowledge from misuse or whether a new regime of traditional knowledge developed with corporate structures can be protected by Intellectual Property Rights. Criticism against protecting traditional knowledge with Intellectual Property Rights centers around the fear of commodifying knowledge, treating it as a mere commodity, which clashes with the perspective of indigenous people who regard their knowledge as sacred and secretive.

Traditional knowledge finds application in various fields, including agriculture, forestry, ayurveda, health,and horticulture. Plant-based medicines and cosmetics, among other products, heavily rely on traditional knowledge. However, traditional knowledge is often exploited for bio-prospecting without the consent of local communities. The author cited a 2005 finding by the CSIR (Council of Scientific and Industrial Research) that identified 35,000 references to individual plant-based medicinal plants in the USPO (UnitedStates Patent Office) related to seven or more medicinal plants of Indian origin. The author discussed two types of traditional knowledge protection: positive protection, which grants exclusive rights of use to members of local communities, and negative protection, which excludes others from using that knowledge held by a particular community. The author argued that by granting copyright to traditional knowledge holders and recognizing patents for inventors from local communities, traditional knowledge could be effectively protected. The author emphasized the need for proper legislative measures and treaties to protect traditional knowledge, particularly in the medicinal and agricultural fields.

In "Establishment of a Traditional Medicine Centre in India," Ms. Vasundhara Kaushik from Amity Law School, Noida, discussed the

recent developments in traditional medicine. The WHO announced the establishment of the world's first Traditional Medicine Centre in India. The author described India's position in traditional medicine, the potential benefits of this establishment for the country, and the globalchallenges that the WHO aims to identify and address. This center, called the World Health Organization's Global Centre for Traditional Medicine (WHOGCTM), was set up in Jamnagar, Gujarat, through an agreement between the Government of India and the WHO. It aims to conduct research on traditional medicine and serve as a global hub for the management of traditional medicine-related issues. The Global Centre for Traditional Medicine is focused on harnessing the potential of traditional medicine worldwide, merging it with modern science and technology to enhance global health. The Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homoeopathy) collaborated with WHO on various aspects related to the benchmarking and documentation of training and practices in Ayurvedic and Unani systems. The WHOGCTM's role is to identify the challenges faced by countries in regulating, integrating, and positioning traditional medicine within their health systems. The author also pointed out the challenges related to the absence of standardized treatment protocols and universal terminology fortraditional medicine. The Global Centre for Traditional Medicine is expected to provide a platform to address these issues effectively.

In her paper titled "Traditional Knowledge of Local Communities and Its Need for Protection," the author highlighted that traditional knowledge is mostly oral and lacks sound legal protection. Without a regulatory framework, large corporations often exploit traditional knowledge without giving due credit to its creators. The World Intellectual Property Organization (WIPO) identifies two types of protection for traditional knowledge. The first is defensive protection, which restricts outsiders from acquiring intellectual property rights over traditional knowledge. The second involves granting rights to indigenous communities to promote their knowledge, its use, and benefits, and prevent commercial exploitation. The World Health Organization (WHO) has called for integrating traditional knowledge with alternative forms of medicine within the national health systems, as seen with AYUSH in India, to ensure easier access and affordability of traditional medicine. In 2000, the WIPO Inter-Governmental Committee on Intellectual Property and Traditional Knowledge urged member countries to develop international measures for the protection of traditional knowledge. The committee has laid out three qualifiers for traditional knowledge: it should be collectively held by indigenous communities, associated with their social and cultural identity, and transmitted from generation to generation, practiced for at least 50 years to qualify as traditional knowledge. According to the author, protecting traditional knowledge is crucial for equity, the conservation of biological diversity, and the preservation of conventional practices that help protect self-identity. Recognizing traditional forms of creativity, innovation, and protectable intellectual property would represent a historic shift in international law. The establishment of the Global Centre for Traditional Medicine is expected to harness the benefits of traditional medicine as a game-changer in the health sector.

In "Intellectual Property Rights and Sustainable Development vis-à-vis Biodiversity," the author describedthe importance of intellectual property rights and their role in sustainable development and biodiversity protection. The author pointed out that environmental protection and sustainable development go hand in hand, as the protection of the environment is a prerequisite for sustainable development. The Industrial Revolution has had far-reaching

consequences for the environment, making the protection of biodiversity crucial. Biological diversity forms the backbone of sustainable development. The author stressed the implementation of intellectual property laws and provisions under civil and criminal laws in India to protect biodiversity. In her paper titled "Traditional Knowledge of Indigenous People and Environment Protection in the State of Assam - An Undeniable Affinity," the author emphasized the link between intellectual property and environmental protection based on the practices and activities of indigenous people. The traditional practices, customs, and institutions of indigenous people are deeply connected to environmental protection. These practices include rites to the land and territories, traditional rituals, and cultural practices related to religion that contribute to environmental conservation. Protecting traditional knowledge can play a pivotal role in preserving the environment. The author referred to the Universal Declaration of Human Rights and the Biological Diversity Act of 2002 in the context of the need for traditional knowledge protection.

In the topic "Misuse of Traditional Knowledge of Indigenous People in the Capitalist World System," the author highlighted the rampant misuse of traditional knowledge by capitalist entities for commercial purposes without adequately compensating traditional knowledge holders. The Industrial Revolution has elevated the importance of intellectual knowledge, posing a growing threat to indigenous communities and local traditions. Traditional knowledge is valuable not only to those who depend on it but also to modern industries and agriculture. The current intellectual property system, primarily designed for individual or corporate ownership, is incompatible with the collective nature of traditional knowledge creation. Traditional knowledge, rooted in common property resources and held collectively, has been exploited by corporate industries without sharing profits with its holders. Due to factors like poverty, illiteracy, isolation, lack of information, and technological barriers, traditional knowledge holders often struggle to convert their knowledge into wealth. Large corporations, including pharmaceutical and film industries, utilize traditional knowledge of indigenous people and village communities without giving proper recognition. International efforts to protect traditional knowledge include the WIPO Inter-Governmental Committee on Intellectual Property and Genetic Resources, the Convention on Biological Diversity, and the United Nations Declaration on the Rights of Indigenous People.

In her paper "Protection of Traditional Knowledge and Sustainable Development - An Integrated Approach," the author focused on the position of Indian laws regarding the protection of traditional knowledge. India possesses a wealth of knowledge

Conclusion

Preserving traditional knowledge is essential for equity, conservation of biodiversity, and the preservation of cultural practices. Biopiracy and misuse of traditional knowledge highlight the need for comprehensive protection and international cooperation. Documenting and digitizing traditional knowledge, as exemplified by the Traditional Knowledge Digital Library (TKDL) in India, can effectively safeguard traditional knowledge while fostering awareness of intellectual property rights. A sui generis legal framework is vital to provide appropriate protection, enforcement, and benefit sharing, striking a balance between preserving traditional knowledge and enabling its rightful use. Collaborative efforts and a globalperspective are essential to ensure the holistic protection and utilization of traditional knowledge for thebenefit of all.