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ABOUT CNLU

In the State of Bihar, where the seeds of the earliest republic were sown and the crop of democracy cultivated, a need was felt by the government for a university which would provide quality legal education and strive to raise national legal standards to competitive international- al level and promote legal awareness in the community, which will lead to the realization of goals embodied in the Constitution of India. Thus, on July 15th, 2006 came into being Chanakya National Law University at Patna un- der the able guidance of its Vice - Chancellor/ Pro - Chancellor, Prof. Dr. A. Lakshminath, former Dean and Registrar, NALSAR University of Law, Hyderabad. CNLU was established under the Chanakya National Law University Act, 2006 (Bihar Act No. 24 of 2006) and included in section 2(f) & 12(B) of the U.G.C. Act, 1956. No Educational Institution is complete without adequate facilities to its Students, Faculties & Employees.

CNLU provides wide range of facilities on its campus. A well-managed residential accommodation with modern facility provided to students. Mess & Canteen facilities on campus provide everything from a simple coffee and sandwich to a full meal. University provides a full range of medical services for students & for employees who register as patients. In addition to general practice services, CNLU provides a range of specialist clinics and visiting practitioners. University organized regular careers fairs, training workshops, and one-to-one guidance for students. Counselling Service aims to enable students to achieve their academic and person- al goals by providing confidential counselling and support for any difficulties encountered while at CNLU. University provides a wide range of IT services including campus internet accessvia a wireless network and in student residences. Number of retired Judges of the Supreme Court, High Courts and lowerJudiciary as well as Senior Advocates & Educationalist have offered to assist the CNLU in its teaching and re- search programme making education at CNLU a rare and exciting experience to the student body. CNLU admired example of maintaining financial autonomy along with greater accountability. It is equipped with the state-of-art infra- structure forsuccessful imparting of legal education of the highest standards. The faculty at CNLU comprises highly acclaimed and experienced academicians who are proactively involved in grooming the younger generation to take CNLU to greater heights. The construction work of the university spread on 18 acres of land at Nyaya Nagar, Mithapur near Mithapur Busstand, Jakkanpur Police Station, Patna. A sprawling lawn with various types of palm trees has adds beauty to the landscape.

ABOUT CIRF-in-IPHD

Innovation is an imaginative initiative to resolve socio-economic –cultural –scientific-technological problems of everyday life. Wherever we are, innovation is required for advancement-progress- prosperity. Innovation motivates for research – searching the solution to a problem. The intellectual property is a creation of mind. Itisin the form of copyright, patents, Trademarks, design, integrated circuit lay out design, trade secret, and geographical indications, bio-technological inventions, traditional knowledge, inventions related to plant varieties, farmers', and plant breeders' rights. Every types of intellectual creation is socio-economic oriented. But there is requirement of protection to the creators for their economic and moral rights involved in it. At thesame time, the dissemination of intellectual property knowledge among the society is essential. The industry also requires connection and involvement. IPR is a subject interconnected with almost all walks of human life today. The requirements of innovation in MSME cannot be denied which furthers employment in organized as well as unorganized sector. Likewise, the sports sector is closely connected with intellectual properties: patents,copyrights, design, trademarks, and traditional knowledge, etc.

The tourism has become a mega source of commerce and employment, where in the innovation is every time a challenge. The National policy on IPR deals with the creation of Human capital with the same spirit that Human Rights tries to protect the Humanity. Hence, the Chanakya National Law University aims to encourage research and innovation in IP and interconnected areas, i.e. Entrepreneurship, Sports, Tourism and Human Rights, throughthis Centre. The Centre will strive for the cause of economic development of the people of Bihar and all the persons/ innovators in general in IP and inter-connected areas –entrepreneurship, sports, tourism, and ultimately Human development by protecting Human Rights.

OBJECTIVES

	Institutional Activities	*Collaborative Activities*
□	Awareness towards intellectual property Rights through seminar /Conference/ Workshop/Symposium and Innovation March.	• IP and Sports industry • IP and Tourism • Global Trade in IP and Human rights • IP and entrepreneurship. • IP, Corporate and Competition. • IP and Information security. • IP, Humanities and Human Development • Community IP, Benefit Sharing and Economic development • Collaboration with Universities, NIPER, and RESEARCH CEN- TRES. • Industry –University collaboration,
□	Institutional project research from government Institutions/Research organisations in India/Abroad.	
□ □	Inter-University Collaboration for research in the field of Intellectual property.	
□	Facilitation Centre for registration and commercialisation related activities.	
□	Consultancy facility from expert.	
□	Publication of 'Research Journal in IP' and 'Inter-disciplinary journal' and 'Books'	
□	Organising Professional development pro- gram and Certificate courses.	
	Setting up Student IPR Club.	

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EDITORIAL

The I.P. BULLETIN (Intellectual Property Bulletin is a publication of the Centre for Innovation Research andFacilitation in Intellectual Property for Humanity and Development (CIRF-in- IPHD).It is a Magazine, ISSN….. (To be obtained as per rules.)

It carries news, column, case reports, essay writings events and activities, research in the domain of Intellectual Property Rights. It has to carry the application of intellectual creation which are of commercial significance. Intellectual property is a creation of mind. Why does it require protection? Whether all of us are aware of the Intellectual Property? Whether Intellectual property can speedup industrialization, commercialization and generate employment? Whether Intellectual Property can boost up 'Make in India: Made in India; 'Stand up India: Start up India' Program? Whether Intellectual Creation have potency of making 'Self-Reliant Bharat' (Atma-Nirbhar). The Government of India has formulated 'National I P R Policy' in 2016 with a slogan 'Creative India: Innovative India'. It aims to IPR Awareness: Outreach and Promotion, to stimulate the generation of IPR, Legal and Legislative Framework

To have strong and effective IPR laws, which balances the interests of rights owners with larger public interest, Administration and Management - To modernize and strengthen service oriented IPR administration, Commercialization of IPR - Get value for IPRs through commercialization, Enforcement and Adjudication - To strengthen the enforcement and adjudicatory mechanisms for combating IPR infringements, Human Capital Development - To strengthen and expand human resources, institutions and capacities for teaching, training, research and skill building in IPR.

The I P BULLETIN is another venture of the Centre with respect to the National IPR Policy 2016, innovationpolicy 2019 and science and technology policy 2020, to work for MSME. They have been working towards the propagation of creativity, innovation, industrialization and commercialization of intellectual property.This Bulletin has features like events, columns, news, research information, case review, essays etc. The first Half Yearly Vol. IV January-June Issue I of January 2023 is hereby submitted before the learned scholars, policy makers, entrepreneurs, MSME, Businessman, administrators, agriculturists and all the concerned stake holders.

Prof. Dr. S. C. Roy,
Dean- Research & Development;
Director- CIRF-in- IPHD
DPIIT-IPR Chair Professor

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MONKEY BUSINESS IN COPYRIGHT – A CRITICAL ANALYSIS OF NARUTO V. SLATER

Shivangi Banerjee[1]

ABSTRACT

Animals, by virtue of the fact that they are not humans, lack locus standi under Copyright Act to sue for copyright infringement.[2]

In an extraordinary series of events, an unattended camera owned by David Slater and a monkey with a knack for photography gave rise to one of the most intriguing copyright disputes in history. Having labels ranging from "curious" to "absurd", the case of Naruto v. Fletcher is quite renowned in the intellectual property law sphere. The events of this case lead to the adjudication of unprecedented issues such as an animal's right to sue, statutory standing of a suit initiated from the "immediate friend of an animal" and many related legal questions. Whilst the judgment of this case sheds light on multiple questions with regard to animals and their claims of copyright, it also interprets the statutes under question with an assumption that a non-human is the plaintiff of the case which would be considered bizarre in many judicial systems. The bench goes to the extent of applying constitutional doctrines with the intention of balancing the rights provided to the animal and non-exploitation of the humans involved in the case. However, despite such elaborate efforts, the bench failed to provide clarity on some aspects of law. The pith of this paper lies in an in-depth analysis of the judgment by finding its particulars, legal revelations and drawbacks.

Keywords - Animal, Copyright, Author, Non-human, Exclusivity

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[2] Naruto et al v. David Slater., 888 F. 3d 418, 426 (9th Cir. 2018)

INTRODUCTION

Under chapter 1 of the US Copyright Act, 1976, the US copyright law has the following criteria for copyrightable works:

"*To merit copyright protection, a work must be an "**original work of authorship"** fixed in tangible medium of expression."*[3]

The concept of "originality" lacks a specific definition in both US and Indian copyright statutes. Nevertheless, the judiciary has progressively formulated various criteria to evaluate the originality of the artistic work under consideration. According to the tests, originality pertains to a creation resulting from intellectual effort. This implies that the author not only refrains from duplicating another's work but also applies "at least some minimal degree of creativity"[4] in the work. Nonetheless, it is explicitly stated that copyright safeguarding for an original creative work does not encompass any notion, procedure, process, system, operational method, concept, principle, or revelation, irrespective of its mode of articulation.

The definition of the term 'author', as given under the U.S. Copyright Law ordinarily refers to the person who creates a copyrightable work. If the copyrightable work is made within the course of employment, the employer of the person creating the work is considered as the author. Joint authorship pertains to a work formed by two or more authors, aiming to merge their contributions into interdependent components of a unified creation. In cases where the work is a result of collaboration among multiple authors, each author assumes the role of a co-owner of the copyright. Thus, it can be assumed that the US copyright regime is moderately clear about who is an "author" and what is "copyrightable" under the act.

Despite these clarifications, the present case highlights the insufficiency of these provisions in determining the eligibility of the creator beyond the specific work they produce. It is to noted that the US Copyright Act does not include the term "author" in the definitions section under section 101 (definitions clause). Consequently, there remains uncertainty regarding whether non-human entities like animals or artificial intelligence can assert copyright claims.

On the other hand, the Indian Copyright Act of 1957 clearly employs the term "person" in the definition of author.[5] Yet, the mention of person does not provide us with certain answers as the current wildlife legislation in India affords rights to animals that are equivalent to those of a

[3] 17 U.S.Code. § 102
[4] Feist Publications v. Rural Telephone *499 U.S. 340 (1991)*
[5] Copyright Act of 1957, Section 2(d)

person. Given the advancement of law pertaining to animals and certain major decisions in the subject, the notion that animals are "persons" in Indian courts appears to be on the rise. The most important of these was the *Jallikattu* decision, *Animal Welfare Board v. A. Nagaraf*,[6] in which the term "person" in Article 21 was interpreted to cover animals under the protection provided by Article 21. The most recent case in which animals are officially classified as "legal persons" is *Narayan Dutt Bhatt v. Union of India.*[7]

Naturally, multiple questions arise to the legal validity of these animals as creators of work. To answer these questions and more, this case report traces the facts, decisions and effects of the case.

FACTUAL BACKGROUND

In the year 2011, photographer David J. Slater, while capturing wildlife, left his camera unattended in an Indonesian reserve forest. Naruto, a curious male crested black macaque who was kept under the supervision of PETA, snatched the camera and began shooting pictures with the device after finding it interesting. It took photos of the forest floors, a few other macaques, and himself, one of which resulted in the iconic "monkey selfie."

In December 2014, the defendant (Slater and Wildlife Personalities Ltd.) released the selfies in a book made by David Slater which was available on the Blurb Inc. website. Here, the defendants are listed as the copyright owners of the Monkey Selfies featured in the book. However, the defendant expressly admitted throughout the book that the images in question were taken by Naruto, the monkey.

In a U.S. federal court in San Francisco, a lawsuit was filed by People for Ethical Treatment Towards Animals (PETA), a non-profit organization dedicated to advocating for animal rights, against the photographer David Slater, acting as Naruto's 'next friend' (or representative). The lower panel held that Naruto was the actual author and owner of the photographs.

Consequently, Wildlife Personalities Ltd. and Blurb, Inc., the San Francisco-based publishing company that published a collection of Slater's photographs featuring two selfies taken by Naruto, alleged copyright infringement for the photographs taken by Naruto. Slater, Wildlife, and Blurb filed motions to dismiss in the District Court under Fed. R. Civ. P. 12(b) (1) and 12(b) (6) on the grounds that the complaint did not possess sufficient standing under Article III or statutory standing under the Copyright Act.

Ultimately, the district court granted the motion to dismiss by holding that Naruto the monkey had failed to establish statutory standing under the Copyright Act. This was followed by a timely

[6] (2014) 7 SCC 547
[7] 2018 SCC OnLine Utt 645.

appeal by PETA and Dr. Engelhardt. However, after the filing of the appeal, Dr. Engelhardt withdrew from the case. Therefore, On July 12, 2017, the parties submitted a joint motion to dismiss the appeal and vacate the lower court's verdict.

On September 8, 2017, the parties told the court that Slater and PETA had reached a settlement agreement. The US Court of Appeals for the Ninth Circuit, however, declined to reject the appeal. It reasoned that because this issue addressed a "growing area of the law," a judgment in this case would prove to be useful to lower courts.

ISSUES

The following issues were discussed by the court,

- Whether an animal can sue people for injunctive relief and damages for claims of copyright infringement
- Whether a representative can sue on behalf of a non-human

DECISION

In the month of April 2018, the Ninth Circuit Court of Appeals rejected the motions to dismiss the case and made observations on the following issues,

I. Whether an animal can sue people for injunctive relief and damages arising from claims of copyright infringement

It was argued by the defendants that Naruto had endured economic injuries because of the appellant's infringing behavior and that the only way it can be remedied was if the court passed a decision establishing Naruto as the author and copyright owner of the pictures in question. In order to sue humans for injunctive relief and further damages for these claims of infringement, it was to be ascertained whether an animal has firstly, Constitutional Standing under the US constitution and secondly, statutory Standing under the US Copyright Act.

i. Constitutional standing:

Article III of the US Constitution consists of the pre-requisite of "case or controversy"[8] which allows an individual to act as a plaintiff. The alleged loss faced by the copyright infringement fulfilled this prerequisite and it was held that the monkey has the

[8] U.S. Constitution. Art. III, § 2, Cl. 1.

constitutional ground to sue. The court decided to adopt an inclusive approach for the present case by highlighting that Article III does not categorically mention that a statutorily authorized suit in the name of an animal is not a 'case or controversy'. Thus, the suit contained sufficient information to establish Naruto's constitutional standing under Article III. However the animal's right to sue was not final without assessing whether Naruto in this case also had the statutory standing to sue under the US Copyright Act.

ii. Statutory standing:

To ascertain the statutory standing of the monkey in case, the court relied on a simple rule of statutory interpretation, i.e. when a particular legislation expressly declares animals to have statutory standing, then the animals possesses it under that particular act. Otherwise, it cannot be assumed that animals have a statutory standing. Since the US Copyright Act clearly prohibits animals from filing copyright infringement lawsuits, Naruto in the present case has no statutory standing.

II. Whether a representative can sue on behalf of a non-human

In the present case, it was held that under the essentials under the "next-friend doctrine" were not met by PETA for the representation of Naruto in this case. Moreover, the next-friend standing doctrine being applied for representing animals is barred by the US Supreme Court in a well-known precedent.[9]

FINAL OBSERVATIONS

On 23rd of the same month, the court ruled in the favor of David Slater, asserting that animals do not possess the legal authority to make them eligible plaintiffs in Copyright claims. The court expressed reservations about PETA's motives and their actions in the course of the case, suggesting that their efforts seemed geared towards advancing their own interests rather than safeguarding Naruto's rights. Furthermore, the court found PETA's attempt to withdraw the case subsequent to the organization learning of its potential significance in establishing a precedent to be concerning.

The judges acknowledged that their decision needed consideration in light of the 2004 case *Cetacean Community v. Bush,*[10] heard by the very Ninth Circuit, which determined that, in specific

[9] Town of Greece v. Galloway, 134 S. Ct. 1811, 1818–19 (2014)
[10] Cetacean Community v. Bush, 386 F. 3d 1169 (2004)

circumstances, animals might have a standing to pursue legal action. A recommendation was made to the Ninth Circuit that a *en banc* hearing should be held to reevaluate their ruling in Cetacean in light of the monkey selfie case. On May 25th, a judge from the Ninth Circuit called for an en banc hearing to potentially overturn the precedent set by Cetacean Community. The court asked both the parties involved to submit briefs within 21 days regarding whether the en banc hearing should be granted. However, on August 31st, they decided not to review the case.

THE DECISION AND THE PRINCIPLES OF COPYRIGHT

I. SPECIFIC INTERPRETATION OF ORIGINALITY

In the present case, the tests of originality under the copyright law are considered with the assumption that the nature of the work i.e. the photograph in case to be of prime importance. In the landmark case of *Macmillan* v. *Cooper,*[11] it was held that for a work to be considered original, it should be the product of labor, skills, and capital. Additionally, in the case *of Feist Publications v. Rural Telephone,*[12] the work had to possess a minimum standard of creativity.

As observed from the established standards in copyright it would *prime facie* seem in the present case that the since the monkey took the picture, the tests of "skill and labor" and "modicum of creativity" will not be fulfilled. However, it was held in *Temple Island Collections v. New English Teas,*[13] that when it comes to photographs, the composition is of prime importance, which is essentially the angle, view, and "bringing together different elements at the right place and the right time" to get copyrighted. There was adequate labor put in by Slater for setting up a specific set of steps for the monkey to follow, without which the final picture would have never been clicked. Thus, under this interpretation, Slater's win is justified.

II. EXCLUSIVITY OF HUMAN AUTHORSHIP

In the midst of the dispute, the U.S. Copyright Office issued a clarification within the compendium of US Copyright Office Practices.[14] The clarification made it abundantly clear that "human authorship," which is "found in the creative and original intellectual conceptions

[11] Macmillon v. Cooper., AIR 1924 PC 75
[12] Feist Publications v. Rural Telephone *499 U.S. 340 (1991)*
[13] Temple Island Collections v. New English Teas [2012] EWPCC 1
[14] Compendium of U.S. Copyright Office Practices, 3rd Edition, Chapter 300, p.306.

of the author" is exclusively eligible for copyright protection under the existing legal regime. It refused to register any work that was deemed not to be a work of human authorship.

LIMITATIONS IN THE JUDGMENT

Although the judgment shed light on many issues involving the case, the bench mostly relied on the statutory standing of the monkey in the court of law i.e. the monkey cannot be considered an author under the copyright regime of the US. However, the judgment failed to consider that the whether the picture can be put in the public domain, or can be filed for a joint authorship with Naruto and Slater. Additionally, reliance has been put on the clarification issued by the US Copyright office, however, since a guiding manual created by the U.S. Copyright office is not a legal notification, it holds no legal value.[15]

CONCLUSION

This study traced the case of Naruto v. Slater with the objective of finding out the various ways the principles of copyright has been interpreted in case of a non-human creator. The concepts of "originality", "authorship" and "nature of work" were main areas of discussion along with the legal standing of an animal in intellectual property disputes. It was found that the US copyright law lacks clarity in many of its definitions and the code. Coming to the judgment, it provides substantive clarity on the existing stand of copyright eligibility with respect to animals. It does not however, address topics such as the lack of specific provisions relating to the matter, jurisdictional issues and joint authorship.

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[15] Guadamuz, Andrés, "The monkey selfie: copyright lessons for originality in photographs and internet jurisdiction", Volume 5, *Internet Policy Review,* pg 3-6, (2016)

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ACQUIRED DISTINCTIVENESS UNDER THE INDIAN TRADEMARKS ACT, 1999: A CONSUMER WELFARE CONUNDRUM

Awantika Tewari[16]

ABSTRACT

There is undeniably a considerable amount of discourse surrounding the Concept of Acquired Distinctiveness vis-à-vis the Trademark Regimes across the globe, including the Indian jurisdiction. In order to familiarize the reader with this legal exception available to descriptive words or generic marks as a valid defense to the 'descriptiveness' ground of refusal for trademark registration, the author takes a deep dive into the Legal Framework regulating trademark protection under the proviso to Section 9(1) of the Indian Trademarks Act, 1999.

Thereafter, the paper progresses to undertake a brief overview of Acquired Distinctiveness as legislated and adjudicated in the European Union and the United States of America. Simultaneously, the author utilizes the 'Four Major Theoretical Pillars of Intellectual Property Rights', as posited by Professor William Fisher in his seminal article to ground the conceptualization of Acquired Distinctiveness across all three jurisdictions.

Lastly, the author shifts their gaze towards analyzing the detriment caused to public interest as a consequence of the legislative and judicial legitimization of the lack of prudence displayed by the claimants of trademark protection over descriptive words or generic marks that have assumed a secondary meaning in the eyes of the public. The paper concludes with a fairly straightforward yet important recommendation, which urges courts, particularly in India, to take into account the manner in which the aforementioned trademarks acquired distinctiveness, prior to granting them protection under the Proviso to Section 9(1).

Keywords: Acquired Distinctiveness; Trademark; Descriptiveness; Secondary Meaning; and Consumer Welfare.

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INTRODUCTION

"A good trademark, whether a word mark or symbol, is devoid of fashion or trend, which makes it potentially iconic if it's seen for long enough in the right places."

- Ivan Chermayeff*

In the modern era, it wouldn't be incorrect to imply that only a few individuals could adduce plausible arguments against the importance and sheer omnipresence of trade marks.[17] Time and again, Trade Mark Law assumes centrality in discussions pivoted on the broader framework of Intellectual Property Rights, particularly with intermittent judicial interventions across the globe.[18] These interventions often chart out the contours of Trade Mark Law, whose expanses are seemingly fathomless.

Before delving into the intricacies of the Legal Frameworks governing Trademark Protection in India and other jurisdictions, it is imperative to acquire a sound understanding of what Trade Marks entail and the purposes they serve. In simple terms, trademarks can be characterized as a string attaching two pieces of paper together. While one of these pieces is the purchaser or consumer, the one denotes the seller. The string forges a nexus between the seller and the end consumer, by representing the products or services offered by the former[19] and simultaneously distinguishing them from the products or services provided by rivals in the market.[20]

Under the Indian Trade Marks Act, 1999, a trade mark is defined as:

"*a mark capable of being represented graphically and which is capable of distinguishing the goods or services of one person from those of others and may include shape of goods, their packaging and combination of colours ; and –*

(i) in relation to Chapter XII (other than section 107), a registered trade mark or a mark used in relation to goods or services for the purpose of indicating or so as to indicate a connection in the course of trade between the goods or services, as the case may be, and some person having the right as proprietor to use the mark; and

[17] Miresi Cela, "The Importance of Trade Marks and a Review of Empirical Studies" 4(3) *European Journal of Sustainable Development* 125-134 (2015), *available at*: http://www.ecsdev.org/ojs/index.php/ejsd/article/view/292 (last visited on October 1, 2023).

[18] *L'Oreal SA v. Bellure NV* (C-487/07) [2009] ECLI 378 [¶58].

[19] Jacob Jacoby, "The Psychological Foundations of Trademark Law: Secondary Meaning, Acquired Distinctiveness, Genericism, Fame, Confusion and Dilution" *NYU - Centre for Law & Business* Research Paper No. (00-03) 4 (2000), *available at*: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=229325 (last visited on October 1, 2023).

[20] Mark P McKenna, "The Normative Foundations of Trade Mark Law" 82(5) *Notre Dame Law Review* 1844 (2007), *available at*: https://scholarship.law.nd.edu/cgi/viewcontent.cgi?article=1224&context=law_faculty_scholarship (last visited on October 1, 2023).

(ii) in relation to other provisions of this Act, a mark used or proposed to be used in relation to goods or services for the purpose of indicating or so as to indicate a connection in the course of trade between the goods or services, as the case may be, and some person having the right, either as proprietor or by way of permitted user, to use the mark whether with or without any indication of the identity of that person, and includes a certification trade mark or collective mark."[21]

Through the course of this paper, the author shall attempt to specifically examine the aspect of 'acquired distinctiveness' within the realm of Trade Mark Law.[22] For this purpose, the research shall *firstly*, analyze the Indian Legal Framework of Trade Mark Protection in the country. This analysis shall entail a due consideration of both the statutory material and judicial precedents in India.

Along similar, the author shall *then* progress to a scrutiny of the Laws and Jurisprudence surrounding Acquired Distinctiveness in the jurisdictions of the European Union (EU) and the United States of America (USA) respectively. This scrutiny shall be accompanied with a brief characterization of the Trade Mark Protection Regimes in India, the EU, and the USA in accordance with the Four Primary Theoretical Underpinnings of Intellectual Property Rights.[23]

Lastly, the paper shall entail a principled juxtaposition of the Exception of Acquired Distinctiveness in Trade Mark Law with the 'Public Confusion' Theory[24] and General Standards of Consumer Welfare.[25] This portion will also factor in the costs[26] incurred by members of the public as a consequence of an exemption being granted to descriptive names or generic symbols vis-à-vis Trade Mark Protection.

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[21] The Trade Marks Act, 1999, s. 2(1)(zb) r/w s 2(2)(a).

[22] *Id.* at s. 9(1)(b), proviso.

[23] William Terry W Fisher, "Theories of Intellectual Property" in Stephen Munzer (ed), *New Essays in the Legal and Political Theory of Property* 1-29 (Cambridge University Press, 2001), *available at*: https://cyber.harvard.edu/people/tfisher/iptheory.pdf (last visited on October 5, 2023).

[24] Lisa P Lukose, "Consumer Protection vis-à-vis Trade Mark Law" 1(1) *International Journal of Consumer Law & Practice* 89-101 (2013), *available at*: https://www.researchgate.net/publication/291354699_Consumer_Protection_Vis_a_vis_Trademark_Law (last visited on October 5, 2023).

[25] P Sean Morris, "The Economics of Distinctiveness: The Road to Monopolization in Trade Mark Law" 33(3) *Loyola of Los Angeles International & Comparative Law Review* 383 (2011), https://digitalcommons.lmu.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1666&context=ilr (last visited on October 5, 2023).

[26] William M Landes and Richard A Posner, "Trade Mark Law: An Economic Perspective" 30(2) *The University of Chicago Press for The Booth School of Business, University of Chicago & The University of Chicago Law School* 273-280 (1987), *available at*: https://www.jstor.org/stable/pdf/725498.pdf?refreqid=excelsior%3A015065c2c180a2c08d256d4550a973ae&ab_segments=&origin= (last visited on October 5, 2023).

TRADE MARK PROTECTION IN INDIA: THE ASPECT OF ACQUIRED DISTINCTIVENESS

Under the Trade Marks Act, 1999, the registration of trade marks is preceded by the categorization of the goods and/ or services in conformity with the Global Classification of Goods and Services by the Registrar.[27] An application made by an individual or entity for the purposes of getting one or more trademarks registered can be rejected on the basis of absolute[28] and relative[29] grounds under the Act.

The exception of Acquired Distinctiveness manifests in the Proviso to Section 9(1). Sub-section 1 states that:

"*The trademarks—*

(a) which are devoid of any distinctive character, that is to say, not capable of distinguishing the goods or services of one person from those of another person;

(b) which consist exclusively of marks or indications which may serve in trade to designate the kind, quality, quantity, intended purpose, values, geographical origin or the time of production of the goods or rendering of the service or other characteristics of the goods or service;

(c) which consist exclusively of marks or indications which have become customary in the current language or in the bona fide and established practices of the trade,

shall not be registered."

However, the Proviso to these clauses curates an exemption for trademarks that have obtained a distinguishable character in the eyes of the public, as a consequence of utilization or prominence. A joint reading of this Proviso with relevant provisions of the Act[30] makes it evident that even if a descriptive word or generic symbol was subjected to registration in derogation of Section 9(1), it shall not be deprived of such status in the event of it having built a reputation and goodwill in among consumers, post getting registered but prior to the initiation of litigation proceedings impugning the legality of such registration.

In a nutshell, one can view the aspects of descriptiveness and distinctiveness as 'sets' that are mutually exclusive but tend to overlap in certain instances. This overlapping region is comprised of trademarks that are generic in character and are yet distinguishable by virtue of their use by the

[27] The Trade Marks Act, 1999, s. 7.
[28] *Id.* at s. 9.
[29] *Id.* at s. 11.
[30] *Id.* at s. 32.

public, thereby assuming a 'secondary meaning'.[31] As far as the judicial stance on Acquired Distinctiveness is concerned, a brief overview of pertinent verdicts rendered by the Supreme Court of India, High Courts and the Intellectual Property Appellate Boards (IPABs) would be useful.

In a 2002 judgement,[32] the Supreme Court was faced with a factual matrix that involved a suit of 'passing off' by the appellant against the respondents for the use of 'Mukta Jivan', the name of the Colour Lab and Studio operated by the former. Diverging from the decisions of the District and High Courts, the Supreme Court ruled in favor of the appellant and granted them an injunction against the respondents employing 'Mukta Jivan'.[33] Noting that the appellants had conducted their business under this name since 1995, the Court opined that it had acquired distinctiveness amongst the public through continuous and extensive use.[34]

Three years later, the Supreme Court solidified its recognition of descriptive names or generic symbols as trademark protected due to them having gained secondary meaning in the eyes of the public.[35] The appellants in this case had amassed a reputation for selling a variety of tea under the name 'Super Cup', which was allegedly usurped by the respondents to pass off their tea as that of the appellant's in the market.[36] Acknowledging that the term 'Super Cup' had fulfilled the requirement to claim the exemption under Section 9(1), the Court injuncted the respondents from branding their tea products under the label of 'Super Cup'.[37]

In a very recent case,[38] a division bench of the Delhi High Court was faced with deciding the appeal preferred by PEPS Industries against the decision of the Singe Judge, who had refused to injunct KURLON Limited from using 'No Turn' as a mark to sell its mattresses, by virtue of the mark being descriptive.[39] PEPS Industries had 'No Turn' registered as a trademark since 4th February, 2011, vis-à-vis mattresses, wall beds, coir mats, sofas, etc.[40] KURLON claimed to have utilized the same mark for mattresses since 2007 and had attempted to register it in 2018.[41]

Since none of the parties had questioned the validity of the trade mark with regards to its descriptive character, the Court did not slice and dice this aspect.[42] Given that PEPS's application for registering 'No Turn' had been accepted in 2011 and KURLON had not raised any objections

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[31] Jeanne C Fromer, "Against Secondary Meaning" 98(1) *Notre Dame Law Review* 216-219 (2022), *available at*: https://ndlawreview.org/wp-content/uploads/2022/11/NDL104_Fromer-cropped.pdf (last visited on October 10, 2023).
[32] *Laxmikant V Patel v. Chetanbhat Shah & Anr.* (2002) 3 SCC 65 [¶3-4].
[33] *Id.* at [¶14,15, and 17].
[34] *Id.* at [¶18].
[35] *Godfrey Philips India Ltd. v. Girnar Food and Beverages Pvt. Ltd.* (2004) 5 SCC 257 [¶1].
[36] *Id.* at [¶2-3].
[37] *Id.* at [¶4].
[38] *PEPS Industries Private Limited v. KURLON Ltd* 2022 SCC OnLine Del 3275.
[39] *Id.* at [¶7].
[40] *Id.* at [¶2]
[41] *Id.* at [¶14].
[42] *Id.* at [¶35].

to the same, the Court held it to be *prima facie* valid.[43] Therefore, the division bench set aside the Single Judge's verdict and restrained KURLON from using the mark. This judgement is important since the Court categorically reaffirms that descriptive marks can be trade mark protected,[44] albeit this wasn't a point of discussion in this case.

In another recent judgement,[45] the Delhi High Court was faced with the question of the validity of shape marks under Section 9(3) of the Trade Marks Act, 1999. While the Trade Marks Registry had rejected the application of the appellant for a mark vis-à-vis "*knitting needles and crochet hooks*", on the grounds of generosity.[46] However, the Court ruled that if shape marks acquire secondary meaning through consistent use and act as identifiers of the source of a good or service, they can be granted trade mark protection under the Section 9(1) exemption.[47] Thus, even though the Court dismissed the appeal,[48] it made this interesting observation with regards to the registrability threshold of shape marks.

In a 2008 ruling,[49] the IPAB, Chennai Bench, adjudged that the appellant's trademark of 'Zodiac' had been in constant use for over thirty years and the public had started associating the mark with the readymade apparels, handkerchiefs and alike goods of the appellant.[50] The Board juxtaposed this duration of three decades with the time period of around fifteen years that the respondents had been using 'Zodiac' for their suiting, shirting, etc.[51] Given that the appellants had been using the mark for nearly double the time when compared to the respondents, the Board ruled in favor of the appellants.[52]

It is pertinent to note that the emphasis laid by the aforementioned courts in India, on the aspect of trademarks acquiring distinctiveness in the eyes of the public, is in line with what Professor William Fisher describes as the 'Welfare Theory' of Intellectual Property Rights in his seminal article.[53] Particularly in the context of non-rivalrous, consumption goods, trademarks serve as identifiers of the source of the product, thereby diminishing the time spent by consumers in hunting the required goods.[54] Further, they encourage companies to ensure the delivery of premium goods or services, so as to prevent competitors from emulating their brand and chipping

[43] *Id.* at [¶37].
[44] *PEPS*, *Supra* note 22, at [¶39].
[45] *Knitpro International v. Examiner of Trade Marks through Registrar of Trade Marks 2022 SCC OnLine Del 2096: (2022) 293 DLT 1*.
[46] *Id.* at [¶1].
[47] *Id.* at [¶13].
[48] *Id.* at [¶14].
[49] *Metropolitan Trading Company v. Shri Mohanlal Agarwal* MIPR 2008 (1) 24; *See also, PK Overseas Private Limited v. KRBL Limited* 2014 (57) PTC 129.
[50] *Id.* at [¶2].
[51] *Id.* at [¶3].
[52] *Id.* at [¶23-30].
[53] Fisher, *Supra* note 7, at 2.
[54] *Id.*

away at their consumer bases.[55]

TRADEMARK REGIMES IN THE EU AND THE USA: THE ASPECT OF ACQUIRED DISTINCTIVENESS

I. EUROPEAN UNION:

In addition to the EU Trade Mark Directive of 2015, the national laws of the member states govern the Trade Mark Regime across the EU.[56] Given the multiplicity of these directives and laws, it is more efficient to look at what the EU Courts have held with regards to the protection of descriptive words, generic symbols and non-traditional trade marks at large vis-à-vis the aspect of Acquired Distinctiveness.

In July 2021, the General Court of EU was faced with two appeals pertaining to the validity of non-traditional trademarks and evidentiary material presented by the parties involved to claim the exception of secondary meaning. In the first case,[57] the appellants were attempting to register the opening and fizzing sound of their metal cans as a trade mark. This case is also relevant given that the Court had previously never entertained applications involving sounds simpliciter without a graphical component. Upholding the Board of Appeal's decision, the General Court ruled that the sound emanated by the cans was not distinctive enough to make the appellant's products stand out from other containers used to store carbonated and non-carbonated beverages.[58]

In the second case,[59] the General Court had to decide the validity of an application requesting trade mark registration for a lipstick's overall shape. While the Court looked into the characteristics of the lipstick, it largely overlooked the plethora of evidentiary material presented by the lipstick manufacturer to demonstrate its reputation among members of the public. Ultimately, the Court observed that merely a distinct design would not satiate the threshold for registrability if it does not point to the source of the product.[60]

II. The United States of America:

[55] *Id.*
[56] International Trademark Association, "The Trademark Reporter: Annual Review of EU Trademark Law" 111(2) *The Law Journal of the International Trademark Association* 506 (2021), *available at*: Annual Review of EU Trademark Law: 2020 in Review, 111 TMR 505 (2021) - DocsLib (last visited on October 10, 2023).
[57] *Ardagh Metal Beverage Holdings GmbH & Co. KG v. EUIPO* Case T-668/19.
[58] *Id*.
[59] *Guerlain v. EUIPO* Case T-488/20.
[60] *Id*.

The Trade Mark Regime is primarily governed under the aegis of the Lanham Act, 1946. Section 43(c) of the Act sets out the Standard of 'Dilution',[61] which can be seen as a contemporary of the Proviso to Section 9(1) of the Indian Trade Marks Act, 1999. Sub-Clause (1) of Clause (c) sets out that:

> "*Subject to the principles of equity, the owner of a famous mark that is distinctive, inherently or through acquired distinctiveness, shall be entitled to an injunction against another person who, at any time after the owner's mark has become famous, commences use of a mark or trade name in commerce that is likely to cause dilution by blurring or dilution by tarnishment of the famous mark, regardless of the presence or absence of actual or likely confusion, of competition, or of actual economic injury.*"

Up until 2006, the aforementioned standard regulated Dilution or Acquired Distinctiveness vis-à-vis Trade Mark Protection. Thereafter, the Trade Mark Dilution (Revision) Act was passed, in essence further diluting the prevalent Dilution standard. This Act substituted actual dilution with the potentiality of dilution. Dilution is a concept similar to that of deceptive similarity under Section 9 of the Indian Trade Marks Act, 1999 and was first fleshed out through a six-pronged test in the cases of *Mead*[62] and *Nabisco*.[63]

However, given that this paper primarily aims to chart out Acquiring Distinctiveness as under the Indian Trade Mark Regime, I will contextualize the discussion to specific observations of US courts of law accordingly.

In a 2014 case,[64] the Trade Mark Trial and Appeal Board (TTAB) under the US Patent Office commented on the kind of evidence required to demonstrate the constant and extensive usage of a generic mark and thus get it protected under 'secondary meaning' would comprise media coverage and materials from external, neutral sources. Declarations by the executives of a company looking to apply for trademark registration and even statements by its clientele would not suffice.[65] With regards to the duration of constant usage, US Courts[66] have taken similar approaches to those of the IPABs in India, and have ruled that a mere period of five to six years will not meet the registrability threshold under the Lanham Act.[67]

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[61] *See also*, the Lanham Act, 1946, s. 43(c)(2)(B).
[62] *Mead Data Central Inc v. Toyota Motor Sales USA Inc.* 875 F.2d 1026, 1035 (2nd Cir. 1989).
[63] *Nabisco Inc. v. PF Brands Inc.* 191, F.3d 208, 214, 227-28 (2nd Cir. 1999).
[64] *In Re Active Video Networks Inc.* No. 77967395 (T.T.A.B., 2014).
[65] *Id*.
[66] *Lovely Skin Inc. v. Ishtar Skin Care Prods. LLC* 745 F.3d 877 (8th Cir. 2014).
[67] The Lanham Act 1946, s. 2(f).

From the above analysis, it wouldn't be incorrect to categorize the stance taken by EU Courts as being in conformity with the 'Personality Theory',[68] while that of the US Courts as being in concomitance with the 'Fairness Theory'[69] of Intellectual Property Rights. EU Courts, particularly with regards to non-conventional, generic trademarks, have laid great emphasis on the requirement of source identification as a requisite of registrability, which can be linked to the 'personhood' of an individual or even a legal entity like a company.

The US Courts on the contrary have factored in considerations of fair compensation to the creators of goods and services, which is why they facilitate the limited monopolization of these goods and services by their creators. The standard of Dilution in particular looks at the labour put in by the applicant, especially in terms of the period of usage of the mark.

COSTS INCURRED IN GRANTING THE SECTION 9(1) EXEMPTION TO GENERIC MARKS

The very purpose of having trademarks, as also flagged in the introduction to this paper, was to aid the identification of products and services by consumers and simplify their purchases. However, with the standards of acquired distinctiveness and dilution being affirmed by Courts across the globe, the pitfalls of causing ambiguity[70] among the consumers have increased substantially.

When courts permit companies to claim the exemption of Acquired Distinctiveness, despite having sold their goods and services under a particular mark for years altogether without registration, they essentially legitimize the lack of prudence displayed by companies with regards to their legal duties under Trade Mark statutes. Members of the common public could have consumed the goods or services of a company or its rivals for decades or more, placing reliance upon a mark, which in itself was never verified by legal authorities. In the event of them falling sick owing to the consumption of a product under this mark, they might not even know which entity they need to proceed against, before a court of law. This is because most consumers generally rely upon marks on items and services and not the detailed information that accompanies them, to identify the brand.[71] The costs of the companies not having obtained legal legitimacy over their marks are thus borne by the common masses.

The threshold of constant usage vis-à-vis Acquired Distinctiveness is also problematic, since it doesn't account for consumer manipulation through advertisements and celebrity sponsorships.

[68] Fisher, *Supra* note 7, at 3.
[69] *Id*. at 2.
[70] Lukose, *Supra* note 8, at 96.
[71] *Id*.

More often than not, people are tricked into engaging in mindless consumerism through the plastering of brand marks via extensive publicity campaigns across social media platforms and other arenas of public engagement. Such consumerism and mark association should ideally not be counted as extensive usage of a mark to satiate the registrability threshold.

CONCLUSION

Through the course of this paper, the author has attempted to chart out the contours of the Trade Mark Regime in India, the European Union and the United States of America. This has been done with particular reference to the Exemption of Acquired Distinctiveness, which also falls within the broader framework the Dilution Standard in the USA.

Simultaneously, the author has flagged the similarities between the generally amicable stances of the courts of law across the three jurisdictions towards allowing generic marks with secondary meaning to receive trade mark protection. In the last section, the author also flagged the pitfalls of accepting the Acquired Distinctiveness standard without paying due heed to consumer welfare and the role played by vehement advertising in brainwashing the public to engage in extensive purchase of the goods and services of companies, regardless of their own opinions or the quality of the goods and services being offered.

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AN ANALYTICAL LANDSCAPE OF INTERNATIONAL TRADE AGREEMENTS AND INTELLECTUAL PROPERTY RIGHTS ENFORCEMENT: TRENDS, CHALLENGES, AND STAKEHOLDER IMPLICATIONS

Shejal Sharma[72]

ABSTRACT

This research study investigates the complex connection between international trade agreements and the enforcement of Intellectual Property Rights (IPR). IPR has assumed a major role in international commerce in a world where cross-border trade in products, services, information, and assets has grown quickly, having an influence on innovation, technology transfer, and economic rivalry. International trade accords like ACTA and TRIPS have increased the significance of IPR in global trade. In order to promote innovation and creativity by offering creators and inventors legal protection, these agreements compel countries to strengthen their IPR regimes. However, they provide a difficult problem in finding a balance between protecting business interests and enforcing IPR.

The research presented here examines how trade agreements affect many sectors, including copyright and the pharmaceutical industry, highlighting the difficult balance that must be struck between the protection intellectual property rights (IPR) and ensuring that the general public has access to knowledge and cultural resources. Additionally, it assesses how well trade agreements protect intellectual property and how well they can resolve disputes in a fair and effective manner. The study focuses on India, a country committed to leveraging intellectual property rights for development and assuring access to basic goods and services. High-profile IPR conflicts, notably in the pharmaceutical industry, are an example of this dedication. The study takes future developments into account, such as the effects of digital trade, the acknowledgment of indigenous

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rights and traditional knowledge, and chances to strengthen IPR enforcement. As international trade agreements continue to influence the landscape of intellectual property, it is essential for both national and international stakeholders to comprehend these complexities.

Keywords: International Trade Agreements, Intellectual Property Rights (IPR), Trade-Related Aspects of Intellectual Property Rights (TRIPS), Balance in IPR Protection, Stakeholder Implications.

INTRODUCTION: INTELLECTUAL PROPERTY RIGHTS (IPR) AND INTERNATIONAL TRADE

World has witnessed swift and significant change in intellectual property law and policy over the past two decades, mostly due to how it intersects with the world of international trade and the development of trade agreements. The rapid expansion of cross-border trade in products, services, assets, and knowledge is directly related to this process. Intellectual property rights have grown in relevance in international trade for a range of interconnected reasons. A situation where the cross-border flow of goods, services, and capital needs the adoption of precise and enforceable intellectual property regulations has been brought about by the consequences of globalization and the removal of trade barriers. Technology advancements have sped up the worldwide dissemination of concepts, practices, and methodologies beyond national boundaries.[73]

Intellectual Property Rights (IPR) are legal protections provided to creators and innovators for their intellectual inventions, such as patents, copyrights, trademarks, and trade secrets.[74] International commerce and intellectual property rights are related in a nuanced and well explored manner. Researchers have looked at a number of ways that IPR may affect commerce internationally. According to one viewpoint, comprehensive IPR protections can encourage innovation and technology transfer, which can increase a nation's competitiveness in global markets. However, critics contend that strict IPR laws may hinder entry, especially for developing nations, and may result in monopolistic domination by international businesses.[75]

Globally, economies are undergoing a major transformation, and knowledge — which includes technology, ideas, methods, and processes — is increasingly recognized as a key resource. A new age when information, in all of its manifestations, is an accessible asset and crosses boundaries in its creation, diffusion, and mobility has been brought about by this transition toward knowledge-based economies. International standards that safeguard intellectual property rights are thus

[73] Mr. Thierry Verdier, "Smart Trade: The cross-border flow of intellectual property comes under 21st century economic scrutiny" *IMF library* (2013).
[74] Chandra Nath Saha, Sanjib Bhattacharya, "Intellectual property rights: An overview and implications in pharmaceutical industry" *Journal of Advanced Pharmaceutical Technology & Research* (2011) 88-93
[75] Keith E. Maskus, "Intellectual Property Rights and Economic Development" 32 *Case Western Reserve Journal of International Law* (2000) 474

becoming more and more in demand in order to enable their efficient use in the global market while preserving fair competition and creators' rights.

The interaction between international trade agreements and intellectual property enforcement is complex and complicated. As nations participate in international trade and commerce, they frequently come to a point where the pursuit of economic gains through trade agreements and the preservation of intellectual property rights may conflict. For countries all around the world, finding a balance between encouraging innovation, enabling economic growth, and protecting intellectual property has proven to be a difficult task. For business owners, academics, and legislators alike, it is crucial to comprehend the dynamics of this intersection.

THE IMPACT OF TRADE AGREEMENTS ON IPR ENFORCEMENT

In the 1990s, as part of the World trade Organization's establishment, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was passed, having a substantial impact on the rise in international commerce, which is strongly linked to intellectual property rights.[76] Following TRIPS, several trade agreements and stand-alone accords, such the Anti-Counterfeiting Trade Agreement (ACTA)[77], incorporated intellectual property requirements. This greater emphasis on trade-related intellectual property isn't only a result of more commerce; it also reflects a growing understanding of the value of creativity and innovation to society. With an emphasis on the broader social and economic effects of intellectual property rights, public opinion has grown to highlight issues like the public domain, public health, wealth distribution, and how intellectual property ownership affects these areas.

The strengthening of intellectual property rights is one prevalent result. Trade agreements, such as the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement[78], encourage member countries to strengthen their IPR regimes. By providing creators, inventors, and innovators with legal protection, this is primarily meant to encourage innovation. For instance, more protections for patents, copyrights, trademarks, and trade secrets encourage investment in R&D. This is a desirable effect since it encourages creativity and technical development, which benefits both enterprises and society as a whole. Additionally, trade agreements support IPR worldwide uniformity. These agreements streamline the legal environment for multinational firms by setting common guidelines for IPR enforcement across governments. This uniformity,

[76] World Trade Organisation, "trips: a more detailed overview of the trips agreement" (1995)
[77] Anti-Counterfeiting Trade Agreement, available at:
*https://www.mofa.go.jp/policy/economy/i_property/pdfs/acta1105_en.pdf (*last visited on Oct 13, 2023).
[78] World Trade Organization (WTO),” Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement)” (1994)

nevertheless, is not without skeptics.[79] Opponents claim that it could ignore the particular requirements and developmental stages of many nations. The one-size-fits-all strategy can unintentionally neglect the ability of less developed countries to completely apply rigorous IPR protections, which might hinder those countries' capability to foster innovation and compete on a global scale. In order to achieve global uniformity, consistency and flexibility must be balanced.

Another crucial factor is striking a balance between enforcing IPR and commercial interests. Trade agreements consider the economic repercussions while simultaneously enhancing IPR protection. The goal is to safeguard inventors' and creators' intellectual property, but not at the price of strangling competition and restricting access to necessary goods and services. It's hard to strike this balance as Strong IPR safeguards may entice international investment, foster economic expansion, and ensure the survival of innovators and content producers. [80]

Trade agreements for IPR enforcement are not without their problems and critics, despite their numerous benefits. The public's access to necessary goods may be hampered by too rigid IPR restrictions, especially in industries like pharmaceuticals where access to medications might mean the difference between life and death. Although provisions could promote creativity and investment in R&D, they can also make it more difficult for people to get important medications, particularly in underdeveloped nations. The loosening of conditions for obtaining a patent is a crucial TRIPS-plus section that adversely affects access to medications. This clause permits the granting of patents for new applications, altered pharmaceutical active components, and novel therapeutic formulations or doses. While this could encourage pharmaceutical firms to develop, it might also result in the licensing of small modifications to an already-available medicine, prolonging its period of market exclusivity.

For instance, questions over the cost-effectiveness of HIV drugs have been raised by India's introduction of TRIPS. These case studies demonstrate the practical effects of trade agreements on various industries and highlight the need for a careful balance between IPR protection and public accessibility to basic products.[81] In another context, copyright protections in free trade agreements such as the Trans-Pacific Partnership (TPP) have received attention[82]. To protect the rights of content producers, these regulations have expanded copyright periods and implemented strict enforcement procedures. However, they have come under fire for perhaps limiting access to

[79] The World Intellectual Property Organization 1967, available at https://www.wipo.int/about-wipo/en/ (last visited on Oct 13, 2023).

[80] Andrés López, "Innovation and Appropriability, Empirical Evidence and Research Agenda" *The Economics of Intellectual Property (*2009)

[81] Ben Sihanya, World Trade Organization (WTO)," Patents, Parallel Importation and Compulsory Licensing of HIV/AIDS Drugs: The Experience of Kenya "

[82] Deborah Gleeson, Joel Lexchin, Ruth Lopert, Burcu Kilic, "The Trans Pacific Partnership Agreement, intellectual property and medicines: Differential outcomes for developed and developing countries" *National Library of Medicine* 7–27 (2017)

information and cultural materials. Because they attempt to protect both the public's right to access information and cultural goods and the rights of producers, the execution of these clauses can be complicated. These instances show how copyright clauses in trade agreements have an impact on many industries and raise concerns about what this means for consumers, innovation, and content accessibility.

Bilateral trade agreements also shed light on trade secret protection. These agreements lay forth rules for preserving trade secrets and affecting competition and innovation in particular industries. We may learn more about the efficacy of trade agreements in safeguarding intellectual property by looking at cases where these provisions have been implemented or contested. The actual uses of these agreements and the consequences for businesses and innovation are clarified by this examination.[83]

Another significant problem is striking a balance between innovation and competitiveness. [84] IPR restrictions that are too strict, according to critics, might inhibit competition and hinder innovation. When patents or copyrights are overly extended or enforced, they may stifle market competition and prevent the creation of subsequent developments. The goal of this criticism is to emphasize the need for trade agreements to balance IPR protection with promoting healthy competition and innovation.[85] This equilibrium makes sure that innovation and open, competitive marketplaces both benefit society. Concerns have also been raised about the efficiency of the trade agreement's IPR enforcement and dispute settlement procedures. It's critical to evaluate whether these systems offer fair and effective ways of resolving conflicts and upholding intellectual property rights. The goal of this analysis is to determine whether trade agreements sufficiently address issues and conflicts related to IPR enforcement. Strong enforcement methods are essential for businesses and artists to ensure that their intellectual property is sufficiently secured and that infringements are dealt with.

There are many different effects and difficulties that relate to the influence of trade agreements on IPR enforcement. Strengthening IPR protection is one of them, as is global standards, juggling competing commercial interests, case-specific effects, access to medicinal issues, and the efficiency of enforcement systems. The ramifications and complications of trade agreements in the area of intellectual property rights are better understood when these issues are examined.

[83] The World Intellectual Property Organization 1967, available at https://www.wipo.int/tradesecrets/en/ (last visited on Oct 13, 2023).
[84] Carlos M. Correa, "Intellectual Property and Competition Law: Exploration of Some Issues of Relevance to Developing Countries" Issue Paper No. 21 International Centre for Trade and Sustainable Development (ICTSD) (2007).
[85] *Ibid.*

NAVIGATING THE COMPLEX LANDSCAPE OF IPR ENFORCEMENT: A FOCUS ON INDIA

The primary means of intellectual property rights (IPR) enforcement in a nation is national legislation. The implementation of the TRIPS agreement has significantly altered the IPR environment in India.[86] Particularly in areas like copyright and patent protection, the nation has worked to bring its legal system into line with international norms. These modifications have given firms and inventors a more secure environment in which to safeguard their works of invention. India has however made an effort to strike a balance between the needs of its own businesses and those of the general population. The nation's approach to mandatory licensing and the preservation of traditional knowledge, for instance, reflects its particular interests and problems.

IPR enforcement procedures are shaped and made easier by international organizations. A significant international organization with a focus on intellectual property is the World Intellectual Property Organization (WIPO). WIPO works on international agreements and treaties and aids nations in building their IPR infrastructure. India's attempts to strengthen IPR protection have received significant backing from WIPO. It has aided India in addressing the safeguarding of traditional knowledge, a crucial issue for the nation. India's ancient knowledge systems have been subject to appropriation, especially in disciplines like yoga and Ayurveda. India and international organizations like WIPO have worked together to create a unique framework for safeguarding traditional knowledge.[87]

India has been involved in numerous high-profile IPR-related conflicts, notably in the pharmaceutical industry, hence the WTO's dispute resolution processes have been important in this country.[88] These conflicts tend to centre on subjects including patent protection and compulsory licensing. India has successfully maintained its right to impose mandatory licensing on necessary medications in order to guarantee affordability, a crucial component of public health. The importance of dispute settlement procedures in the India highlights the need to strike a balance between the needs of local companies, the public health sector, and innovators. India's position in numerous conflicts demonstrates its dedication to using intellectual property rights as a tool for

[86] "Intellectual Property Rights – Laws and Practices*", The Institute of Company Secretaries of India (Icsi)* available at: https://www.icsi.edu/media/webmodules/FINAL_IPR&LP_BOOK_10022020.pdf (last visited on Oct 15, 2023).

[87] Shambhu Prasad Chakrabarty, Ravneet Kaur, "A Primer to Traditional Knowledge Protection in India: The Road Ahead" 42 *Liverpool Law Review*, 401–427 (2021)

[88] Dhar, B., Joseph, R.K. "The Challenges, Opportunities and Performance of the Indian Pharmaceutical Industry Post-TRIPS" In: Liu, KC., Racherla, U.S. (eds) Innovation, *Economic Development, and Intellectual Property in India and China. ARCIALA Series on Intellectual Assets and Law in Asia. Springer, Singapore* 299–323 (2019)

development and to guarantee access to basic products and services.

The protection and promotion of intellectual property rights depend on the legal system and IPR enforcement tools. These processes have drastically changed in the Indian context, demonstrating the country's effort to harmonizing its laws with international norms while addressing its own issues and goals. The support of international bodies, notably WIPO, has been crucial in helping India on this path. The complexity and evolution of IPR enforcement, as well as the necessity to balance competing interests, are demonstrated through dispute resolution processes, as demonstrated by India's engagement in WTO disputes.

STAKEHOLDER IMPLICATIONS IN INTERNATIONAL TRADE AGREEMENTS AND IPR ENFORCEMENT

Several stakeholders are profoundly touched by the intricate world of international trade agreements and the enforcement of intellectual property rights (IPR). This in-depth analysis explores the wide-ranging effects on governmental bodies and decision-makers, enterprises and businesses, owners of intellectual property, as well as the general public and consumers. The emphasis is on the need for balance and adaptability in a quickly changing environment that combines innovation, economic development, and accessibility to basic goods and services. It highlights the difficulties and possibilities each stakeholder group faces.

International trade agreements and the enforcement of intellectual property rights (IPR) have far-reaching effects that have different effects on different stakeholder groups.[89] Finding a balance between economic growth and IPR protection is a difficulty for governments and politicians, particularly in the Indian setting. Domestic laws must continue to be adjusted in order to be in accordance with continuous international norms, such as the TRIPS agreement. To establish a strong and efficient IPR enforcement framework, policymakers must also improve enforcement methods.

Trade agreements provide prospects for worldwide growth, establishing foreign markets, and protecting intellectual property abroad for enterprises and organizations. To guarantee that their ideas are secured and do not violate the rights of others, these companies must traverse the complexity of IPR protection in many nations, which necessitates a thorough grasp of legal frameworks and protective tactics. Owners of intellectual property, such as creators and innovators, profit from the protection provided by international trade agreements. Companies can generate revenue off of their work due to this protection, which also promotes greater innovation.

[89] Stephen Ezell, Nigel Cory, "The Way Forward for Intellectual Property Internationally" *The Information Technology and Innovation Foundation* (2019)

These parties have access to a worldwide audience as well, so they need to create elaborate licensing and protection procedures.[90]

Indirectly, trade agreements and IPR enforcement have an impact on the general public and consumers. Their ability to get necessities is impacted, particularly in the area of healthcare. In the case of India, trade agreements may result in access to reasonably priced generic medications because of clauses like compulsory licensing, which emphasize the need to strike a balance between IPR protection and accessibility and cost. [91]Additionally, the innovations sparked by robust IPR protection that result in a variety of goods and services benefit customers. Regulatory structures, however, are required to guarantee the proper balance, prohibiting monopolies and exorbitant pricing. It is also essential to inform and educate the people about their rights and the importance of IPR, both in India and throughout the world.

In conclusion, the consequences for these many stakeholder groups are complicated, necessitating careful thought and well-balanced strategies to fully realize the benefits of global trade agreements while taking into account the worries and interests of all parties.

SHAPING THE FUTURE: TRENDS, ENFORCEMENT AND BALANCE IN IPR AND TRADE AGREEMENTS

The landscape of international trade agreements is changing, and new trends are emerging that will continue to influence how intellectual property rights (IPR) are enforced. The growing importance of digital trade and e-commerce is a prominent trend. Cross-border data flows and the booming digital economy pose further difficulties for IPR enforcement. As a result, clauses addressing concerns like data privacy, online intellectual property protection, and digital piracy are likely to be included in trade agreements. Governments and policymakers must be proactive in grasping the subtleties of digital commerce and the attendant IPR problems in order to successfully manage these evolving trends. This entails developing legal frameworks that may change to reflect the rapidly changing digital environment.

The increased recognition of indigenous rights and traditional knowledge in commercial agreements is another new trend. For nations like India, which are rich in traditional knowledge and cultural legacy, this has important ramifications. Future trade agreements may place more emphasis on the preservation of traditional knowledge and mandate the creation of sui generis

[90] MadhuBalaKaushik, Poonam Rajharia, VarshaTiwari Vyas, Sumedha Soni, "Navigating Intellectual Property Rights: Fostering Innovation, Access, and Education in the Indian Context" E3S Web Conf. Volume 399 *International Conference on Newer Engineering Concepts and Technology* (2023).

[91] Anna Niesporek," Compulsory Licensing of Pharmaceutical Products & Access to Essential Medicines in Developing Countries" available at: https://liu.diva-portal.org/smash/get/diva2:21332/FULLTEXT01.pdf (last visited on Oct 15, 2023).

safeguards for national breakthroughs.[92] India should continue to push for the protection and preservation of its traditional knowledge in response, and it should take an active position in international talks to help shape these changing tendencies.

IPR enforcement enhancement is still a crucial concern and an area that may be improved. The basis for this improvement is provided by trade agreements, but successful execution is essential. Governments should take into account a number of ways to strengthen IPR enforcement, including India. *Firstly*, it's crucial to take a proactive approach to capacity building. This entails making investments in the legal system, providing law enforcement with training, and educating the judges on IPR issues. Making ensuring the legal system is prepared to handle IPR conflicts quickly and efficiently is essential. Furthermore, global cooperation through institutions like the World Intellectual Property Organization (WIPO) may provide technical support and experience to improve enforcement methods. *Secondly*, it is crucial for creating an environment that encourages creativity. It is a hard endeavour to strike the ideal balance between IPR protection and ensuring accessibility to necessary goods and services.[93] India has to implement policies that support innovation while also addressing issues with affordability and public health. To make sure that compulsory licensing serves its intended goal without impeding innovation, its use in the pharmaceutical industry, for example, should be closely regulated. Ultimately, businesses are essential to the enforcement of IPR. To safeguard their inventions and products, they should take the initiative to obtain patents, trademarks, and copyrights. Effective IPR enforcement can be facilitated by industry and governmental alliances, such as public-private partnerships. India can improve IPR protection and enforcement by encouraging an environment of innovation and entrepreneurship.

In the framework of trade agreements, striking a balance between IPR protection and public access to information is an ongoing problem. To make sure that IPR protection does not restrict access to necessary commodities, information, and cultural items, policymakers must carefully weigh this balance. This calls on India to develop laws and policies that strike a reasonable balance between safeguarding intellectual property and promoting accessibility and affordability. The government must continue to support the affordability of medicines in industries like pharmaceuticals. Regulations should be set up to stop monopolistic behaviour that raises prices. This is especially important in a nation where the populace is varied and frequently facing financial strain. It is impossible to overstate the significance of copyright in the digital age. India should seek to ensure that copyright rules both safeguard the rights of content producers and

[92] Shambhu Prasad Chakrabarty, Ravneet Kaur, "A Primer to Traditional Knowledge Protection in India: The Road Ahead" 42 *Liverpool Law Review*, 401–427 (2021)

[93] "Intellectual property right" *The Times of India*, Nov. 24, 2022.

guarantee public access to information and cultural content as trade agreements increasingly place a priority on digital trade. It will be necessary to make intelligent, inclusive policy decisions that take into consideration the changing nature of the digital commerce ecosystem in order to balance the interests of content providers, digital platforms, and consumers.

To achieve this balance, awareness and education are essential. The general public and consumers should be made aware of their rights and the importance of IPR. By fostering a culture of intellectual property respect, this education might prevent overzealous protectionism from stifling the exchange of ideas and innovative works. Addressing new trends, improving enforcement techniques, and finding a delicate balance between protection and access will be crucial as we look to the future of trade agreements and IPR enforcement. India is in a good position to influence the future of IPR in international trade agreements while fostering innovation and access to information due to its particular difficulties and possibilities.

CONCLUSION

The complex interplay between international trade agreements and the protection of intellectual property rights (IPR) is a dynamic and multidimensional terrain with significant repercussions for governments, corporations, artists, and the general public. It continues to be difficult to strike a balance between preserving IPR and making sure that the general population has access to necessities like information and commodities. The future of IPR enforcement is changing as global trade changes due to new trends like internet commerce and the acknowledgement of indigenous rights. Stakeholders, especially governments, must move quickly to address these tendencies, improve enforcement techniques, and create an atmosphere that encourages innovation while preserving accessibility. The preservation of this equilibrium depends critically on education and awareness. The future of intellectual property rights (IPR) in international trade agreements is being shaped by India, with its own difficulties and possibilities, which will eventually have an influence on equal access and global innovation.

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I P BULLETIN

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AN ANALYSIS OF THE IMPACT OF THE INTELLECTUAL PROPERTY RIGHTS ON THE DEVELOPMENT & COMMERCIALIZATION OF GENETICALLY MODIFIED SEEDS

-Gnanavel . L[94]

ABSTRACT

Genetically modified (GM) seeds intellectual property rights analysis is a difficult and debatable subject. The Genetically modified seeds concept and its IP Rights are being encouraged and welcomed on one side. On the other side, some contend that IPRs may result in higher seed prices, a less range of options for farmers, and a concentration of power in the hands of a small number of powerful seed businesses. In this paper we will be discussing about the prospects of adopting and using the genetically modified seeds in the agriculture and the difficulties faced by the farmers during the post cultivation. This paper also addresses the problems faced by the farmers and the seed manufacturing companies in relation to the agreement clauses agreed upon by the farmers without proper knowledge. Still the many MNCs are exploiting the breeder's right without their knowledge and there is in an alarming situation in the society to spread the awareness about the GM seeds its application and its statutory rights. Patents on GM seeds, however, might also have a variety of disadvantages. They may first result in higher seed prices. This is due to the ability of corporations holding GM seed patents to set monopolistic prices for their seeds. Second, GM seed patents may limit farmers' options. This is due to the possibility that farmers will only be able to cultivate GM seed kinds that have been patented by a select few sizable seed companies. Thus this paper covers the aspects relating to the patent of GM seeds and the Intellectual rights derived from the statutes to the farmers or the breeders and also the current regulatory framework of GM seeds & crops.

Keywords: Modified Seeds, Farmer's rights, Crops, Gene, Intellectual Property Rights.

[94] GNANAVEL L, IV YEAR – B.COM.LL.B (Hons), SCHOOL OF EXCELLENCE IN LAW, THE TAMIL NADU DR. AMBEDKAR LAW UNIVERSITY, CHENNAI, TAMIL NADU.

INTRODUCTION

Agriculture, which continues to be the main source of income for around 58% of the population, is essential to India's socioeconomic development. The rapid development of genetic modification (GE) for improving agriculture production and quality over the past few decades has led to the development of intellectual property rights, or IPRs, for plant kinds, including GM (genetically modified) seeds and plants. The World Trade Organization (WTO)'s global intellectual property framework mandates that member nations extend IPRs over biotechnology used in agriculture by enacting suitable legislation that takes into account the technology's socioeconomic goals.

So this paper mainly focusses on the importance of genetically modified seeds and its effective use in current era and also how it contributes to the development of agriculture and economy. Despite strong opposition to GM agricultural technologies, the government's policies appear to be in favor of GM crops. The NITI Aayog has recently argued in favor of expanding the usage of GM seed varieties to boost agricultural growth. The term "Agri-Tech" is frequently used to describe this combination of agriculture and technology. A number of businesses are currently emerging in this industry, investigating and creating novel methods to improve agricultural practices and goods. This essay also analyses the rights to intellectual property associated with genetically engineered seeds and the effects they have.

Research Objectives:

- To evaluate how intellectual property rights affect the creation and marketing of genetically modified seeds.
- To explore the various rights available for the Farmers.

Research Methodology:

The research has embraced the doctrinal method of research relying mostly on secondary sources. The Sources include Government reports, Journals, Websites, Books, Articles, and other mass media sources. Therefore, the pertinent information on Genetically Modified Seeds has only been evaluated and interpreted from the sources and used in accordance with the requirements of the research.

BACKGROUND & HISTORY OF GENETICALLY MODIFIED SEEDS

Genetically modified (GM) seeds are those that have undergone laboratory modification to add particular traits, including pest or herbicide tolerance. Recombinant DNA technology, which enables scientists to insert genes from one organism into another, is one of many methods used to make GM seeds. The earliest techniques for genetically altering microorganisms were created by

scientists in the 1970s, which is when GM seeds first became popular. The first genetically modified plant, a tobacco plant designed to withstand antibiotics, was developed in 1983. The first GM food crop, a tomato, received U.S. government approval for commercial sale in 1994. These Genetically modified seeds and food crops resulted in greater economic development to the society as well as economy. Since then, GM crops have proliferated throughout the agricultural sector. In over 25 nations now, GM crops are grown, and they contribute significantly to the world's production of soybeans, corn, cotton and canola. The majority of GM crops have been modified to resist pesticides or herbicides. Crops that can withstand herbicides, like Roundup With ready soybeans, farmers may destroy weeds with herbicides without endangering their harvests. Crops and seeds that are resistant to pests, like Bt maize, release proteins that are poisonous to some insects. For farmers and consumers, GM crops may offer a number of advantages. Herbicide-resistant plants can assist farmers in lowering their herbicide usage, which can help them save money and lessen environmental harm.

Crops that are resistant to pests can let farmers use less insecticides, which can save them money and lessen the harm done to the environment. Additionally, there may be a variety of advantages for consumers of GM crops. GM crops, for instance, can be modified to be more nutrient-dense or to have a longer shelf life. Additionally, new meals and products can also be created using GM crops, such as soybean oil that is rich in omega-3 fatty acids which is good for people who are suffering from heart diseases.

Nevertheless, there may be some hazards connected to GM crops. The possibility that GM crops could cross-pollinate with wild plants and produce new pests or weeds that are resistant to insecticides or herbicides is a source of concern. Another worry is that GM crops can have unforeseen effects on the environment or human health. GM crops have been thoroughly investigated and confirmed to be both safe for consumption by humans and the environment. According to a report published in 2016 by the NASEM, "there is no convincing evidence that GMOs pose any unique risks to human health."[95] Although GM seeds are still a contentious issue, they are becoming more crucial to world agriculture. GM seeds may make it possible to raise more food with less resources as the world's population continues to rise.

ADVANTAGES AND DISADVANTAGES OF GENETICALLY MODIFIED SEEDS

Genetically modified seeds (GM Seeds) provide more resilient and superior plant breeds. The usage of GM seeds is done to boost the yield and profit of a particular crop. The only GM crop legal in India is Bt Cotton. It possesses alien genes from the Bacillus thuringiensis (Bt) soil

[95] Committee on Genetically Engineered Crops, Genetically Engineered Crops: Experiences and Prospects (Washington, DC: National Academies Press, 2016).

bacterium, enabling the crop to produce a protein harmful to the widespread pest pink bollworm. There are various advantages and disadvantages of the genetically modified seeds. But however GM seeds are seen to be the good one to the current era.

Pros:

- **Higher Agricultural yields:** Most agriculture experts believe that farmers using genetically modified seeds will see higher yields. Even though there hasn't been a lot of research done on how biotechnology affects crop yields and returns, what has been done so far is consistent with this expectation. The ERS study discovered that farmers' use of Bt cotton and herbicide-tolerant cotton "significantly increased" crop output. [96]Crop yields experienced a "small increase" as a result of using soybeans that are herbicide-tolerant.
- **Fewer pesticide and herbicide applications:** If GM seeds are more broadly accepted, farmers also expect a decrease in the use of synthetic herbicides and pesticides (and the associated costs). According to the ERS study, farmers that used GM seeds used fewer pesticides and herbicides overall. Use of pesticides was significantly reduced. Except for the herbicide glysophate, for which the investigation showed a large rise, this drop in herbicide use was also statistically significant.
- **Human Health Benefits:** The GM seeds are beneficial to the human health as compared to the other seeds. As during the use of those modified seeds there is a comparatively less need for the chemicals and other fertilizers as in turn it’s prosperous and helpful to the human health.
- **Increased revenue:** Most studies indicate that using GM seeds increases farmers' profits. The ERS analysis indicates that a rise in net revenue from agriculture generally corresponds with a boost in the usage of GM seeds in a statistically meaningful way. For example, the service found that GM soybeans produced a median net value per planted acre of $208.42, whereas other crops created an overall net value of $191.56. The service also found "an important factor increase" in net profits for crops of herbicide-tolerant cotton and Bt cotton.

Cons:

- **Limited rights to retain and replant seeds**: A confidential agreement between the producer and a biotech firm severely limits the grower's rights regarding the purchased seed. Usually, these contracts contain a "no stored seed" disclaimer. This provision prohibits farmers from storing and/or repurposing genetically modified crop seed. The clause essentially requires GM crop growers to purchase GM seeds annually.

[96] Economic Research Service, United States Department of Agriculture, Genetically Engineered Crops for Pest Management (2000).

- **Acceptable arbitration clauses** are commonly found in contracts between private farmers and seed firms. These clauses require that any issues pertaining to the technological features or performance of the seed must be resolved by arbitration. Under this clause requiring binding arbitration, growers may not file claims. Because of their near-monopoly on availability, these seeds are always expensive to buy.
- **Harm to other living things**: The potential harm that genetically modified (GM) crops and seeds may do to other living things, including beneficial ones, is a concern associated with the consequences of biotechnology. Very little research exists to support this concern. [97]The media gave a Cornell University research a lot of coverage. This study suggests that when a gene from Bt corn is carried onto milkweed plants by the wind, it may pose a risk to the larvae of monarch butterflies. Other research, however, has demonstrated that the real amount of Bt on plants of milkweed in a natural setting does not come close to the concentrations that are detrimental to the larvae.
- **Challenges with international markets**: GM crops are not universally accepted. Trade blocs such as the European Union (EU) have prohibited the importation of crops that have been genetically modified because of concerns about the environment and public health. The EU is not yet forced to accept GM crops since it has alternative supply sources besides the US. Brazil, which outlaws the use of genetically modified crops, remains a dependable supply source for countries that refuse to import GM products.

GM SEEDS IN INDIA: REGULATORY FRAMEWORK

The only GM crop legal in India is Bt Cotton. The variety Bt Cotton is a kind of cotton plant that has been genetically modified to include a bacillus thuringiensis gene extract. The widespread pink bollworm, a pest that hampers cotton agriculture, is poisonous to a plant protein that is developed by the plant with the help of this extract (Bt). ***The Genetic Engineering Appraisal Committee (GEAC)*** is the supreme body in India that approves the release of GM crops for commercial use.

In 2002, the Genetic Engineering Appraisal Committee (GEAC) gave its approval for *Bt Cotton* to be grown commercially in India. Since then, Bt cotton has been planted on more than 95% of the country's cotton land. After BT Cotton, the GEAC also gave its approval *to BT Brinjal* and *HT Mustard* in 2007 and 2017, respectively. However, the release of HT Mustard was postponed in

[97] Colorado University, Transgenic Crops: An Introduction and Resource Guide available at (http://www.colotate.edu/progms/lifesciees/TransgnicCrops/risks.html).

2017[98] after the Supreme Court sought public feedback, while BT Brinjal was stopped in 2010[99]. Currently in effect are two regulations that regulate genetically modified crops: the Environmental Protection Act of 1986 and the Rules for the Production, Use, Import, Export, and Storage of Harmful Micro-Organisms/Genetically Engineered Micro-Organisms or The cells, 1989 ("the Rules, 1989"), both of which were notified under the Act. These laws cover the widespread use of genetically modified crops. The Environment Protection Act also specifies the compositions of the relevant agencies for addressing certain parts of the Rules. Moreover under the Environment Protection Act of 1986, using the authorized GM variant might result in a 5-year prison sentence and a fine of Rs. 1 lakh. The Recombinant DNA Advisory Committee is a body under the Ministry of Science and Technology's Department of Biotechnology. The RDAC is in charge of reviewing biotechnology policy at the national and world levels. Also in Addition to that the *Review Committee on Genetic Manipulation (RCGM)* Department of Biotechnology, Ministry of Science and Technology executive branch. The safety and protocol are observed by the RCGM. Additionally, it offers the GMO regulations. Additional organizations, such as *Institutional Biosafety Committees (IBSC),* are responsible for putting these regulations into practice.[100] According to the Rules for the Manufacture/ Use/ Import/Export and Storage of Hazardous Microorganisms, Genetically Engineered Organisms or Cells (Rules, 1989), which were notified under the Environment (Protection) Act, 1986, all GMOs GMSs, including GM crops, are subject to regulation in India. The 1989 Rules cover a wide range of activities relating to genetically modified organisms (GMOs), including as manufacturing, packing, exporting, importing, selling, and storing. These regulations are implemented in collaboration with the Indian Department of Biotech (DBT), Department of Science & Technology, Ministry of India, and State Governments.

INTELLECTUAL PROPERTY RIGHTS AND GM SEEDS

Patentability is specifically restricted to plants, either whole or in particular, seeds, varieties of plants, and nearly all of the biological mechanisms for plant growth and multiplication under ***Section 3(j) of the Indian Patent Act***.[101] In order to fulfil India's commitments under **Article 27** of TRIPS Agreement, this provision was added as part of the Patents Act's 2002 modification.

In comparison with Section 3(j) and Art. 27.3(b), India has inserted two clauses. In the first, a

[98] Karnika Bahuguna, "*Supreme Court stays commercial release of GM Mustard*, DownToEarth," – last accessed on 28th Sep, 2023.
[99] Outlook Article, "*Putting moratorium on Bt Brinjal was a right decision: Jairam Ramesh*," - last accessed on 28th Sep, 2023.
[100] Saksham Caturvedi and Chanchal Agarwal, "Analysis of farmer rights in the light of Plant Varieties and Farmers' Rights Act in India", 33(11) EIPR 709-710 (2011).
[101] THE PATENTS ACT, 1970 (Act no.39 of 1970).

further restriction is added by saying that "living things and animals in part or any portion thereof" are to be barred; in the second, the group to be excluded is expanded to include seeds specifically. Consequently, under Indian law, no variety of seed or variation will be entitled to patent protection. Patents do not protect genetically engineered or organic seeds. Therefore, it is not possible to directly patent GM seeds. The Patent Act does not cover the idea of patentability for genetics and genomic order and sequences. However, the limitation in section 3(j) applies to every part without exception. Natural genes, cells, tissues, and nucleic acids will so continue to be excluded. However, a gene may be eligible for patent protection if it is "*recombinant and having inventive step and industrial application*" in addition to *"substantial human intervention."*[102] Therefore, a separate sequence that is inserted into the vector and subsequently transferred into a cell of the host to generate a desired characteristic would be considered a patentable gene. These recombinant genes are described as "chemical compositions" in ***the Mashelkar Committee Report,*** and such "incremental innovations" should be supported.

As a result, there is some uncertainty regarding what happens when recombinant genes are added to various plant parts, including cells, tissues, and processes. Although it is illegal to explicitly patent plants in India, the owner of a patent may covertly claim ownership of the plant by patenting the altered gene that causes the plant to grow. In India, for instance, Bt Cotton was granted a patent in this way.

A further law protecting plant varieties is PPVFR act. Implementing farmer's rights is one of the primary objectives of the legislation known as the Protection of Plant Variety and the farmer's Rights Act, 2001, which aims to treat farmers similarly to commercial breeders and grant them the same protection for the species they produce. The Act designates the farmer as a breeder who has created several successful varieties, a grower, and a guardian of the agricultural genetic pool. [103]The Act also includes ***'researcher's rights,'*** which enable a breeder to grant a local source a license to use their variety as a new source for the development of modern and new varieties without seeking prior consent.[104] Only the transgenic seed is subject to rights held by the research business. The company sells mutant seed to local businesses as a starting point for producing more hybrid varieties, but does not hold the intellectual rights to the variations that follow. These businesses have rights to benefit sharing under the PPVFR Act. The corporation is permitted to get a portion of the profit generated by these kinds for the breeder.

[102] Maslkar and others, Report of Technical issue Group on the Patent Law Issues (2007).

[103] Dr. Philippe Cullet & Kolluru, "Plant Variety Protection And Farmers Rights- 60 Towards A Broader Understanding", 24 DL 55

[104] Sec 30. Researcher's rights, The PPVFR Act, 2001 (ACT NO. 53 OF 2001).

FARMERS' RIGHT & IPR

The Protection of Plant Variety and Farmer's Rights Act, (PPV&FR Act), 2001 is the first piece of legislation to provide farmers with legal protections and acknowledges the role that local communities and the nearby people played a vital role in the creation of new plant varieties. The matter concerning of farmers' rights or the farmers' rights over their traditional varieties is the most contentious problem that arises as a result of the establishment of IPR in Plant Genetic Resources (PGRs). With the aid of NGOs, the law allows farmers to register their different kinds, protecting them from being scavenged by official breeders. According to a recent study, despite the fact that the PPVFR Act of 2001 permitted for the registration of over 600 farmer's varieties, not a single variation has yet been incorporated into the official seed chain.[105] Also the introduction of genetically modified (GM) seed protected by various forms of intellectual property has changed the structure of farming practices, and 65 farmers have reduced to being simply consumers of developers. Moreover Breeders are permitted to create new kinds using even protected varieties under the purview of PPV&FR Act whereas as per the patent laws allows only for experimental use.

In addition According to **Section 64** of the Indian PPV&FR Act[106], selling, importing, and producing a variety that has been registered under the PPV&FR Act without the registered breeder of that variety's permission or a registered breeder's registered licensee is regarded as violating the legally protected variety.

The clauses in relation to "benefit sharing," "rights of researchers," and "protection of the public interest" are quite significant. Now is the time for the Government and NGOs to take the proper action to inform the populace on the country's legal system and regulatory framework. Thus the farmers should also be made educated about their rights which are exclusively available to them.

CHALLENGES: GENETICALLY MODIFIED SEEDS

The Most primary challenge faced by the genetically modified seeds is the problem and inability of reproduction. As far as concerned nowadays the GM seeds are found to have the inability to reproduce further seeds from the plants which grown out of GM seeds. Also additional the problem faced is the offspring produced from the cross-pollination of GM seeds with other plants could lack the same desirable characteristics as the plants that were originally planned. This may

[105] Shalini , Intellectual Property Rights Policy Fails to Address Farmers' 83 Rights and Needs" THE WIRE (May 30, 2016),

[106] Section 64 of the PPV&FR Act, "Infringement", PPVFR Act, 2001 (ACT NO. 53 of 2001).

be due to some fact that the genetic changes are not always transmitted to subsequent generations in a predictable manner.

Thus Farmers who save seed from GM crops can consequently have a crop that is less fruitful, less resistant to pests and illnesses, or of worse quality. It is crucial to remember that at present there are no sterile GM crops available on the market. However, research has been done to create such crops, also referred to as *"terminator seeds."* Farmers would have to buy fresh seed every year since Terminator seeds would turn out to be unable to create viable offspring. Due to widespread public opposition, it is highly unlikely that Terminator seeds will ever be sold commercially.

SUGGESTIONS & RECOMMENDATIONS

Indian in current era is in a magnificent technological development in all the prominent areas. But still there exist a gap in the proper awareness of the developments and the use of new inventions. The government should take step to provide awareness to the general public about the various rights available to them and the access to justice in case of any violation of their rights. The government should also assist farmers in saving and exchanging seed by educating them about their rights and responsibilities under IPR legislation.

The government should make sure that labelling regulations are transparent and explicit while empowering consumers to make knowledgeable decisions about GM food products. The Indian government must analyze its IPR rules and regulations to make sure they are fair and encourage the creation and use of GM seeds in a way that benefits all parties involved, including farmers, consumers, and the environment. The government should also help Indian seed firms develop their own GM technologies, reducing their dependency on foreign seed corporations.

CONCLUSION

Property and state governance have increasing relevance in light of the issues raised by technological advances and intellectual property rights. The global intellectual property framework and the privatization of agriculture mandate the protection of intellectual property for plant varieties, including genetically modified seed. The legal acknowledgment of farmers' rights is crucial because it addresses some of the bigger issues related to the introduction of IPRs in agriculture. Genetically modified seeds may be the least ideal choice for farmers who significantly depend on a stable market. For some farmers, the danger of GM crops' unpredictable consumer acceptability—especially in global markets—may be too great. Genetically modified seeds are without a doubt an innovative agricultural technology.

Thus In order to meet the needs of Indian farmers and consumers, the government should invest

in GM technology research and development. In Addition Public-private collaborations should be encouraged by the government in order to create and market GM seeds. The government should also try to educate farmers, consumers, and the broader public on the advantages and dangers of GM seeds. Without a doubt, these seeds provide a plethora of potential benefits as well. Nonetheless, farmers shouldn't embrace new technology blindly. Before entering into a contract with the corporate GM seeds companies the farmer should be informed thoroughly every clause of the contact. Before deciding to plant genetically modified seeds, farmers should familiarize themselves with the technology and carefully go over all pertinent legal documentation.

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I P BULLETIN

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EMERGING FRONTIERS IN TRADEMARKS: POSITION MARKS IN INDIA & ABROAD

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ABSTRACT

In today's fiercely competitive market, businesses find themselves compelled to invest substantial resources, both in terms of finances and efforts, to nurture their reputation and brand identity. They dedicate significant time and energy to set their products and services apart from those of their rivals, aiming to make them truly distinctive. Modern consumers make choices based on factors like the look, smell, color, sound, and more associated with goods and services. In this context, these sensory elements are crucial for product recognition in our society.

With this heightened focus on product recognition, the risks of trademark infringement, passing off, and misleading practices increase substantially. Such infringements can severely damage a company's reputation. This is where unconventional trademarks become relevant. However, it's important to note that unconventional trademarks are still a relatively new concept in India, and there's limited legal precedent in this area. Moreover, trademark laws vary from one jurisdiction to another, despite international agreements like the TRIPS agreement. Not all forms of unconventional trademarks have gained full legal recognition, both in India and worldwide. The article provides insights into the statutory validity and protection of position marks in India, citing notable case laws. The article calls for harmonizing international policies to accommodate sensory trademarks like smell, taste, and touch to foster innovation and provide global brands a level playing field in diverse jurisdictions.

Keywords: Trademark, Position Mark, WIPO, Trademark Registration.

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INTRODUCTION

In the intricate and highly competitive world of commerce, trademarks are vanguards of a company's identity. They serve as the *unique insignia* through which businesses distinguish their products and services from the rest, carrying brand recognition and a promise of quality and trust. Traditionally, trademarks have been anchored in words and logos, often taking the form of easily recognizable symbols. However, as the global marketplace evolves, so does the canvas on which trademarks are painted.

The concept of trademarks has transcended the realm of mere logos and brand names, venturing into unconventional and innovative territories. Position markings are one such out-of-the-ordinary domain that has gained popularity. This innovative trademark redefines the boundaries of intellectual property law and gives companies additional options to safeguard their distinctive qualities.

This article explores this changing environment while illuminating position markers and the legal systems that control them. The European Union has adopted the idea of position marks, which are examined in this study along with their definitions, representations, and registration processes. Additionally, it explores the protection of position marks and their legal validity via the prism of the Indian legal system, which is supported by significant case law. Position marks are just the beginning of our exploration of the boundaries of trademark law. We pivot to explore shape marks, diving into their recognition and the criteria for their registration in India. Drawing from legal precedents and insights from various case laws, we aim to paint a comprehensive picture of the evolving trademark ecosystem.

Our journey does not merely seek to define these unconventional trademarks but also serves as a call to action. The article concludes by recommending the harmonization of international policies to welcome sensory trademarks, including smell, taste, and touch. By aligning global trademark regulations and accommodating these non-conventional marks, we strive to foster innovation and ensure a level playing field for international brands in diverse jurisdictions.

DEFINING POSITION MARKS

Article 3 of the European Union Trade Mark Reform (EUTMR) 2017[108] defines a position mark as "a trademark consisting of the specific way in which the trademark is placed on or affixed to the product." It also lays down specific rules and requirements for the representation of position

[108] EUIPO, EU Trade Mark Reform, (2017).

marks to increase legal certainty for users and reduce the objections rate for formalities' objections. It lays that 'a representation which appropriately identifies the position of the mark and its size or proportion with respect to the relevant goods.' Elements that do not form part of the subject matter of the registration 'shall be visually disclaimed preferably by broken or dotted lines.'

A position mark is a trademark that encompasses the specific placement or affixing of the mark on a product. The European Union recognizes position marks as one of the new types of marks, alongside three-dimensional marks, hologram marks, motion marks, color marks, and marks consisting of non-visible signs according to the World Intellectual Property Organization (WIPO).[109]

When applying for the registration of a position mark, a graphical representation becomes crucial. This representation must accurately identify the position of the mark, along with its size or proportion concerning the relevant goods. Elements not central to the registration should be visually disclaimed, often delineated by broken or dotted lines. In cases where the graphic representation falls short, a written description elucidating the mark's position may be required.

Position trademarks are "signs, represented graphically, placed on a specific part of a product in a constant size or particular proportion to the product," according to the World Intellectual Property Organization (WIPO). The mark itself and the location of the mark on a product are the two components of a position trademark. WIPO defines a position mark as a "constant element of an identical size placed on a product in a fixed position," to put it another way. A description describing this location is the primary need because the application for registration of such a Trademark is based primarily on the placement or "position" of the mark. It is important to note that if the description states that the position of the mark on a product is changing, position markings would probably not be registrable.

In India, a trademark must meet two key criteria to be considered for registration under Section 2(1) (zb) of the Trademarks Act, 1999[110]: it must be distinctive and capable of graphical representation. Distinctiveness implies the mark's capacity to differentiate the goods or services of one entity from its competitors. While conventional marks can be graphically represented easily, unconventional marks, including position marks, often present a unique challenge due to their non-standard nature.

Unconventional marks typically cannot be expressed graphically, which causes them to deviate from conventional marks, which is understood. Nevertheless, by applying broader interpretations of the term through court pronouncement, marks that are incapable of matching with these features

[109] Singapore Treaty on the Law of Trademarks, Rule 3, para 8, (2011).
[110] Indian Trademark Act, 1999, S. 2(1) zb.

are obtained. Position markers are sometimes seen by national systems as a subset of other marks, such figurative or three-dimensional marks.

Adidas launched a legal challenge against BVBA[111], a German shoe manufacturer, arguing that BVBA's trademark application for a '2 stripe design' on footwear (image 1) was excessively similar to Adidas' well-known '3 stripe design' (image 2), which had been previously registered. The dispute revolved around visual distinctions in the stripes' inclination and spacing. Initially, OHIM's opposition panel ruled in favor of BVBA, differentiating the two marks based on these factors

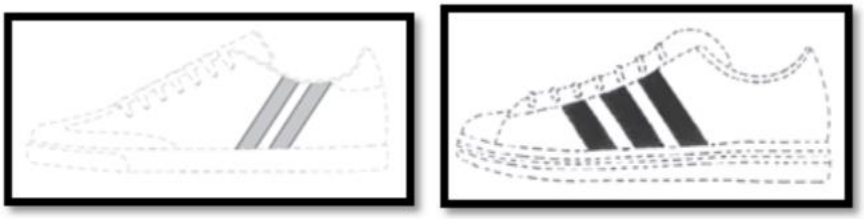

IMAGE – 1 **IMAGE - 2**

However, Adidas was not satisfied with this decision and appealed to the EU General Court. The EU General Court opined that Adidas' '3 stripe design' had indeed acquired distinctiveness through extensive use, and BVBA's '2 stripe design' would likely harm Adidas' reputation. BVBA, undeterred by previous rulings, continued their legal battle, this time appealing to the Court of Justice of the European Union. Unfortunately for BVBA, their efforts were in vain, as the Court upheld the previous decision. In a surprising turn of events, BVBA launched an independent suit against Adidas before the European Union Intellectual Property Office (EUIPO), challenging the registrability of Adidas' '3 stripe mark.' BVBA argued that this mark lacked distinctiveness and the characteristics of a source identifier. In an unexpected twist, BVBA emerged victorious, and Adidas' '3 stripe mark' was reclassified as an 'ordinary figurative mark,' leading to the cancellation of its registration in 2019.

[111] Shoe Branding Europe BVBA v. Adidas AG, Case C-396/15 P, 7 February 2016, CJEU.

REQUIREMENTS FOR REGISTRATION OF A POSITION TRADEMARK

To successfully register a position trademark, certain requirements must be met. The position trademark must be capable of graphical representation, making a clear and detailed description of its placement on a specific product essential for the trademark registration application. When applying for trademark registration, it is imperative to provide drawings that specify the product and indicate the precise placement of the positional mark. Given that the same position trademark may be used on multiple similar products, including both a graphical representation of the mark's position and additional information explaining the connection between a particular product and the positional mark is crucial. It is important to note that the entire depicted form or the mark alone cannot be individually protected as a trademark; the protection is specifically granted to the mark when placed in the distinct position on the product.

The distinguishing feature of such a mark lies precisely in the unique positioning of the mark on the product. While resembling three-dimensional marks to some extent, positional marks differ in that they do not pertain to the appearance of a particular product itself.

When determining the registrability of a positional mark as a trademark, several key aspects should be considered:

1. **Position**: The specific placement of the mark can serve as an indicator of origin only when it deviates from the norm within a particular market. It is essential to assess whether consumers expect to see the mark regularly displayed in that specific position on the product.
2. **Mark**: If the mark is perceived solely as a decorative element without indicating the product's origin, it may lack the distinctive feature required for trademark protection.

The Working Group of the World Intellectual Property Organization (WIPO) has emphasized that the visual representation of a positional mark must be clearly presented. Additionally, any elements of the object for which protection is not sought should be illustrated with dashed or dotted lines. If the graphical representation is deemed unclear, the registration authority may request a written statement to elucidate the mark's position concerning the product.

WIPO specifically defines a position mark as a constant element of identical size positioned on the product in a fixed location. This composition and placement constitute the distinctive feature of a positional trademark, even though the position itself cannot be registered as a trademark.

In conclusion, the successful registration of a position trademark hinges on graphical representation, unique positioning, and the mark's ability to indicate the origin of the product, thereby ensuring its distinctive character in the eyes of consumers.

HOW TO DESCRIBE A POSITION TRADEMARK IN AN APPLICATION?

Any form of mark that is being considered for registration must have a graphical representation. This need, however, becomes crucial in the case of a position mark. This is so that both the public and the appropriate authorities may understand not only what is protected but also for what position relative to the good or commodity.

The position markings must also be correctly identified in relation to the pertinent items, according to the EU Manual. The mark's position in relation to the relevant items, as well as its size or proportion, should be clearly defined in the portrayal. Visual disclaimers, such as broken or dotted lines, are required to identify the elements that do not contribute to the registration's subject matter. To describe how the mark is attached to the items, in keeping with the mark's portrayal, may be included.[112]

Japan TM Manual- For a position trademark, the applicant may specify the mark and its position, which together make up the trademark, using lines, dots, etc. In this instance, the applicant is expected to explain, in the section "Detailed explanation of the trademark," how those lines, dots, etc. characterize the mark and its position.[113]

Indian TM Manual- For registration, a trade mark must be able to be represented visually. In practice, the Registrar will insist that the application's use of the trade mark must be accompanied with a pictorial depiction.[114]

The size of the representation of the trade mark should, where practicable, be no larger than 8cm X 8CM.[115]

STATUTORY VALIDITY OF POSITIONAL MARK IN INDIA & CASE LAWS –

1. ***Adidas AG v. Praveen Kumar***[116]- The defendant in this case was using the "three stripes" logo, which was a trademark of the Adidas Corporation and was used on its apparel and footwear, so the plaintiff was given relief by the court. The complainant established that the phrase "three stripes" has been utilized as a position mark and is protected by numerous national-state laws.

[112] EU, Trademark Guidelines, 9.3.4 Position Marks, https://guidelines.euipo.europa.eu/1803468/1788824/trade-mark-guidelines/9-4----------9-3-4-position-marks.
[113] Form 2, Note 7, 'Ne' of the Ordinance for Enforcement of the Trademark Act, https://www.jpo.go.jp/e/system/laws/rule/guideline/trademark/document/syouhyoubin/56-01.pdf.
[114] India, Manual of Trade Marks Practice & Procedure, 4.3 Requirement of graphical representation. https://ipindia.gov.in/writereaddata/Portal/IPOGuidelinesManuals/1_32_1_tmr-draft-manual.pdf.
[115] Indian Trademark Act 1999, Rule 28, Section 15(3), Rule 25(10).
[116] 2019 SCC OnLine Del 8603.

2. ***Colloseum Holding AG v. Levi Strauss & Co***[117]- It is a location mark that consists of a rectangular red textile label in the top left-hand corner of the back pocket of pants, shorts or skirts that is sewed into and protrudes from the seam.

PROTECTION OF POSITION TRADEMARK IN CASE OF CONFLICT- LEGAL CONTEXT

When it comes to safeguarding the rights associated with position trademarks in cases of conflict, international and regional legal frameworks play a crucial role. These frameworks provide guidelines, rules, and regulations to protect the interests of trademark owners. In the context of position trademarks, which refer to distinctive marks based on the specific placement of a mark on a product, several international, European Union, and national laws come into play.

I. PARIS CONVENTION FOR THE PROTECTION OF INDUSTRIAL PROPERTY

The Paris Convention, adopted in 1883 and subsequently revised, sets out significant principles regarding the protection of trademarks. The Convention's Article 5C handles the cancellation of registered marks when their use is made required in a certain nation. It states that such cancellation is only permitted if the holder fails to give a valid explanation for their actions after a sufficient amount of time has passed.[118]

Additionally, as long as the modifications don't undermine the distinctiveness of the initial registration, the Convention permits the use of a trademark in a modified form. This clause guarantees that slight alterations in presentation will not render the mark's protection void.

II. EUROPEAN UNION LAW

Within the European Union, Regulation No 40/94 governs Community trademarks. Article 7 of this Regulation outlines absolute grounds for refusal, which include trademarks devoid of distinctive character or those exclusively made up of common signs or indications.[119]

However, Article 7(3) of the Regulation provides an exception. It states that if a trademark has gained distinctiveness through its usage in connection with the relevant

[117] [2013] Bus LR 768.
[118] United Nations Treaties Series, No 11851, vol 828, p 305.
[119] Council Regulation (EC) No 207/2009, Recital 10.

goods or services, it may still be registered.[120]

Additionally, Article 9 of Regulation No 40/94 grants exclusive rights to the proprietor of a community trademark. This includes the authority to prevent third parties from using similar signs in a way that may cause confusion among the public.

Article 15 of Regulation No 40/94 stipulates that a Community trademark must be genuinely used within five years of registration. Failure to do so may result in sanctions unless valid reasons for non-use are provided.

Moreover, Article 15(2) extends the definition of use to cover variations in the presentation of the trademark as long as the alterations do not affect its distinctive character.[121]

III. GERMAN TRADEMARK LAW

Section 14(2)(2) of Germany's Law[122] on the Protection of Trade Marks and Other Signs is a direct copy of Section 9(1)(b) of Regulation No. 40/94. The use of any sign that can be mistaken for a trademark is forbidden, giving trademark owners the authority to do so.

Additionally, Section 14(5) of German law enables trademark owners to file injunctive actions against anyone using a sign infringing on their rights to the mark, particularly when there is a chance that the violation may occur again.

The foundation of the legal system controlling the protection of position trademarks in conflict situations is made up of these legal requirements. In cases of infringement or suspected violation, they offer the necessary instructions for trademark owners to assert their rights and seek remedy.

LEGAL RECOGNITION AND CHALLENGES IN INDIA

The Indian judicial system's acceptance of position markings is a complicated and changing matter. While position marks and other unorthodox trademarks are becoming more popular throughout the world, India's legal system has lagged behind these advancements. For companies and brand owners looking to maintain their distinctive product qualities and visual identities, this difference presents a number of difficulties.

[120] Ibid, Art. 7.
[121] Council Regulation (EC) No 207/2009, Art. 15.
[122] Act on the Protection of Trade Marks and Other Signs of 25 October 1994, Part I p. 3082.

I. A STRICT LEGAL FRAMEWORK:

The narrow statutory framework is the main issue with position marks in India. Traditional trademarks including words, logos, and slogans are the main emphasis of the Trademarks Act of 1999. Position markings do not cleanly fit into this framework since they highlight the location or placement of a distinctive piece within a product. Because of this, firms frequently run into opposition when trying to register position marks.

Because of this, firms frequently run into opposition when trying to register position marks. It is possible for the Registrar of Trademarks to claim that certain marks are not trademarks in the traditional sense and cannot be registered. For brand owners, this restricted statutory recognition presents a big obstacle.

II. EVIDENCE OF UNIQUENESS:

Distinctiveness is one of the basic prerequisites for trademark registration. A mark needs to be distinctive in order to set one entity's products or services apart from competitors' offerings. In this sense, position markings pose a special challenge.

It can be difficult to prove that a position mark is distinctive because it requires proving that a product's unique location of a visual feature renders it instantly recognizable and non-functional. In this situation, the onus of proof may be heavy because the location mark may need to function independently of other branding components as a source identifier.

III. NON-FUNCTIONALITY:

Determining a position mark's non-functionality is a significant challenge. By definition, trademarks cannot be used for practical reasons. They are used to set goods and services apart in the marketplace. In the case of position marks, brand owners must demonstrate that the precise placement of a product feature serves a trademark-related purpose alone and is not functional or utilitarian.

This distinction can cause issues throughout the registration procedure because convincing authorities that the position mark is actually non-functional requires thorough legal justifications and supporting documentation.

IV. LACK OF LEGAL PRECEDENTS:

The difficulties experienced by enterprises are made worse by the lack of clear legal

precedents in India regarding position marks. Brand owners are in a condition of uncertainty since the legal doctrine around unusual trademarks has not yet fully established.

Brand owners and their legal counsel frequently tread unfamiliar waters because there isn't a body of established case law or precedents. Due to the difficulty of interpreting the law in the context of position marks, both applicants and authorities may engage in drawn-out registration procedures and legal challenges as a result.

V. INCONSISTENT METHODOLOGY:

An inconsistent approach to trademark registration has also been caused by a lack of statutory direction and legal precedents. Position marks may be handled differently depending on how various trademark examiners read the law.

For brand owners, this constancy can lead to uncertainty and unpredictability. The registration process is not universal or clear because what one examiner may accept as a position mark may be rejected by another.

CONCLUSION & RECOMMENDATIONS

In Conclusion, The Legal Acceptance, And Difficulties Posed By, Non-Conventional Trademarks In India, such as position marks, represent the changing landscape of intellectual property rights. The Indian legal system has come a long way in recognizing non-conventional trademarks, giving businesses the chance to safeguard their distinctive brand identities. The legal rulings have established significant precedents in recognizing the distinctiveness of unconventional trademarks, particularly in cases like the Christian Louboutin affair.

As they engage several senses for a long-lasting customer impact, sensory trademarks, which go beyond conventional visual and audio aspects, are becoming more and more prominent in branding. Companies utilize smell, taste, and touch-based trademarks to establish distinctive brand associations, but this presents difficulties because there is no unified international framework.

Due to subjective sensory perceptions, a lack of global standardization, and the requirement for consumer association proof, it is essential to harmonize sensory trademark policies. The call for global harmonization includes standardized consumer research, global registration systems, defensive protection mechanisms, and expert panels. A equal playing field for enterprises operating in many jurisdictions is ensured by this harmonization, which also reinforces brand identification and encourages innovation.

However, it is essential to handle the difficulties brought on by this new area of trademark law. Concerns that need to be addressed include the lack of particular legislation designed to address

atypical marks, the requirement for rigorous evidence to demonstrate distinctiveness, and the absence of a thorough review process. In addition, it is crucial to establish a precise and uniform procedure for the registration and defense of position marks in order to offer examiners and brand owners with clear legal guidance. Several suggestions for trademarks in India include:

a. Legislative Clarity: The Indian government should take into consideration passing particular legislation or amending the current trademark rules to establish a framework that is clear for the registration and protection of atypical trademarks, including position marks. This would simplify the application process and lessen ambiguity.
b. Standardized Examination Criteria: Create standard examination standards to evaluate the distinctness of position marks. This can be done by providing trademark examiners with guidelines or guides that will ensure consistent examination.
c. Education and Awareness: To help trademark examiners and legal professionals better comprehend non-traditional trademarks, hold training sessions and awareness campaigns. This will help distinguishability ratings to be more precise.
d. International Cooperation: Work with other nations and international intellectual property organizations to standardize procedures for trademarks that aren't customary. Adopting best practices and conforming to global standards may be necessary for this.
e. Case Law Development: Continue to hear and decide cases involving these distinctive types of marking in order to develop a body of case law surrounding atypical trademarks. The Christian Louboutin case establishes a sound precedent, and more cases may help create a framework with broader legal protections.
f. Public Awareness: Inform companies about the importance and legal protection of distinctive trademarks. Encourage businesses to consider registering these marks in order to protect their distinctive brand identity.

India may improve its trademark system by putting these suggestions into practice and removing the legal obstacles, providing a more favorable setting for companies to properly protect their distinctive marking components. In turn, this can encourage economic expansion and innovation while preserving free market competition.

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PROBING INTO THE UNHOLY CONVERGENCE OF ARTIFICIAL INTELLIGENCE IN ART: A TECHNO-LEGAL PERSPECTIVE AND FUTURE CONTEXT OF DIGITIZED ART GENERATION

Sadia Sultana[123] *, Chandril Chattopadhyay* [124]

ABSTRACT

Art "generating" has recently become a typical art world term, associated with the creation of art through the usage of Artificial Intelligence. With the encompassing of AI in art, radical changes have taken place in the art world regarding business and commerce and promotion of such new digital arts across several platforms. The proliferation of machine learning has certain ramifications in the current scenario where AI has captivated a greater part of human lives, including the creative expressions through art. Since the formation of Deep Neural Network, the progress in AI has become noticeable. The creation of AI induced art involves a more nuanced process of "generation" and then will pass through "discriminator" through complex neural and algorithmic procedures like Generative Adversarial Network. Thus our paper would try to answer from existing literature on the originality, authorship of the AI driven art and the lacunae in the existing framework concerning AI and IPR in India that shall make the above mentioned questions difficult to answer like in the case of the painting Suryast where IPRs were rejected for soul ownership by RAGHAV (the AI art generator). The paper would also try to explore the multifarious aspects of AI and Art Law like the use of machine learning and deep learning techniques through ANNs, the modus operandi of the new AI software for art generation like Dall-E2, Midjourney and Stable Diffusion, and discuss the sustainability of such datasets to produce a wide range of artwork that can actually result in saturation. Thus questions regarding legal personhood regarding AI generated Art, the legal issue behind digitization of copyrighted work without authorization. The question related to whether AI art in certain process is transformative enough to pass the "fair use" test under the Copyright Act, 1957 shall be discussed in this paper,

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along with suggestions for a consolidated clause to put on record the importance of the growth of AI driven art and the necessity for their protection.

Keywords: AI, Copyright, Neural Network, algorithm, art.

INTRODUCTION

"The world today doesn't make sense, so why should I paint pictures that do?"

- Pablo Picasso

Dematerializing of art in this age of digitalization has implications far reaching than merely decolonising the art-scapes and projecting a stringent and consolidated idea of art and artworks that is convention at its best. The copyright laws that were organically frame keeping the printed works in mind does not protect these digital artworks in the cyberspace and there in lie a gap with regards to ownership, commercialisation, issues of provenance and other legal compliances while dealing with such works of art, now that Artificial Intelligence have rolled into the practice and have caused a wider range of issues in the Intellectual Property space.

Digital art analysed color theory more efficiently and generated art that could pull the cords of viewers' emotions more efficiently. But the authors who are artists and art-history geeks themselves felt averse towards it initially because of its furtherance from what I called real art and more so because with AI, there have been rampant questions on infringement of copyright. The authors' idea somehow got altered with the recent Sun Yuan and Peng Yu's installation "Can't Help Myself" (2016- 19)[125]. It is a robot arm that was devised to interact with the viewers a little and contain the hydraulic fluid in the abstract space that's constantly flowing out, besides taking care of itself. It eventually stopped entertaining its own needs and taking head to visitors but to just attend the scooping of the liquid. It surely is an art and it touches our emotions.

Artificial intelligence is a branch of Computer Science that deals with the multidisciplinary aspect of using machine learning capacity to develop smart machines that function without human conscience and contravention. AI algorithms are structured to continuously collect data (inputs) and draw inferences from the data after analysis, thereby using them along with the first set of basic data subjects, that is machine learning.[126] There are various ways we can use AI in agriculture, healthcare, robotics, business and astrophysics and now art generated by AI is a matter of interest as well as raises serious concerns regarding the underlying infringement involved in

[125] Iris Olde Hampsink, "Can't Help Myself - How A Relatable Robot Offers A Critical Reflection on Modern Society", *Diggit Magazine, available at* https://www.diggitmagazine.com/papers/can-t-help-myself-how-relatable-robot-offers-critical-reflection-modern-society.

[126] "What is Machine Learning?", *IBM, available at* https://www.ibm.com/topics/machine-learning.

producing the artwork.

APPLICATION OF AI IN ART

Now there are various ways that AI can be used in art that just create art by using its pattern recognition and computer vision. This new machine learned knowledge can be used in Social robots and creative bots. Now these create a new identity problem of the AI[127] and Intellectual Property Rights dispute. The Copyright Office of India and most other countries are still not sure of how to deal with it but this special domain has already started having economic growth and the earlier we incorporate it in law with defined terms, the faster it will bring in more economic growth for the nation.

Besides the common notion of creation of art by AI, it can be used for countless applications, the most important of which is study and preservation of our cultural heritage. This new artistic domain does not pose a challenge but facilitates and hastens the traditional ones. Large scale digitization effort has led to large scale availability of huge digitized artwork collections. With advancement in pattern recognition and computer vision, there is a new opened up path of solution for art researchers and assisting domain experts in the study and analysis of existing visual arts. There is one other very important benefit. It can open a window for a wider audience in a deeper understanding of visual arts. Thus promoting the spread of art culture for a never before seen group of humans. There by promoting visual art which is our cultural heritage that aids national economics, causing overall cultural growth of our society. Now this way of application of machine learning in art is very difficult. The ability to recognize properties, similarities and patterns within and between digitized artwork, in order to favour a deeper study, inherently falls within the domain of human artistic and creative perception. This perception is very difficult to objectify subjectively, clarify and conceptualize. It's influenced by a broad number of factors and the emotion the artwork evokes in the observer is huge. So this theory of AI facilitating art historians and domain experts is very fertile and active research in the Computational Intelligence Laboratory. Its sole purpose is to propose new techniques, methodologies and tools for the automatic and intelligent analysis of visual art.

VISUAL LINK RETRIEVAL

It is the building block of most analysis in the visual arts in finding similar function sets that map and link between painting of different artists and painting schools. This new machine generated function sets will help Art historians discover from a new view point and better understand the

[127] Vaishali Mittal, Siddhant Chamola, "AI's Right To Legal Identity In India", *Asia Business Law Journal*, *available at* https://law.asia/ai-right-legal-identity-india-2/.

influences and changes from one art movement to another. Traditionally this bulky, costly and time consuming work is done manually by inspecting a large collection of human annotated photos. This new method relies on use of a deep convolutional neural network[128] to perform feature extraction and a fully unsupervised nearest neighbour mechanism to retrieve links between the digitized paintings.

This unsupervised technology is helpful where metadata [129] is scarce, unavailable or difficult to collect and manual data would be tedious and impossible to link. It doesn't only provide most similar to the input query, but also allows the user to study Historical patterns by analysing the "influence graph"[130] built on the retrieved link. So the visual link method by applying graph measures on the network built on the retrieved links performs a form of historical knowledge discovery on artists. Besides the Art Historians, these benefit enthusiasts by visiting online museums and art galleries. It can increase the joy and journey favouring art.

ARTWORK CLUSTERING

It is clustering artworks into different groups, such that the data appears to be uniformly distributed within a single homogeneous cluster in the feature space. Feature space refers to the collections of features that are used to characterize your data.eg- if it is about art- the feature space might be period, style, material used. It refers to the n-dimension where the variable lives, not including the target variable if present. All variables are features. AI models are made that can cluster artwork without depending on illusory labels or subjective knowledge, which can be really useful for many domain applications. E.g- period of production of an artist, classification of contemporary art that can't be richly annotated. A method using a pre- trained deep convolutional neural network to perform feature extraction and uses a deep embedded clustering model, based on an auto-encoder neural network to perform clustering[131]. This deep pipeline technology is useful for highly dimensional input pixel space and the feature space resulting from CNN embedding, especially when input images are very complex artistic images. Image Embedding is a lower dimensional representation of the image which can be used for many tasks such as classification. CNN can be used to create the image embedding. So this method is a promising solution to the well known

[128] T.Q. Peng, Fang Li, *Image Retrieval Based On Deep Convolutional Neural Networks And Binary Hashing Learning*, IEEE International Conference on Acoustics, Speech and Signal Processing, Held on ICASSP, USA, https://www.semanticscholar.org/paper/Image-retrieval-based-on-deep-Convolutional-Neural-Peng-Li/483ab4c90d7c49163bec437d7d11d86664a16d11.

[129] Agata McCormac, Kathryn Parsons, Marcus Butavicius,"The Use of Metadata Visualisation to Assist Information Retrieval", Australian Government- Department of defence 01-02(2007).

[130] Giovanna Castellano and Gennaro Vessio,Deep Convolutional Embedding for Digitized Painting Clustering, 25th International Conference on Pattern Recognition (ICPR)2708-2715(2020).

[131] Types of Neural Networks and Definition of Neural Network, *available at:* https://www.mygreatlearning.com/blog/types-of-neural-networks/(last visited on 13 October, 2023).

"cross-depiction" problem.

COMPUTER VISION AND KNOWLEDGE GRAPHS

Most of AI Art relies solely on pixel information inherent in the digitized paintings and drawings. But it loses out on a lot of other domain knowledge- other than visual classification there are historical, social and contextual factors that allow us to frame them in a more complex framework. Art knowledge graph is the solution of including a vast domain gap (gap of rich metadata, contextual information and textual descriptions) including arbitrary complex entities related to art besides the visual content. Art graph integrated with visual features automatically learned by deep neural networks to develop more learning models.

SOCIAL ROBOTICS

It is a vision based approach that aims to maintain the illusion of dealing with a human being. It requires the AI/robot to identify and locate people, recognize art that they are viewing, profile the user during the visit in order to generate adequate recommendations and have conversational skills. It is a very new approach and will make art literature easily approachable and allure more visual art viewers. It is a fast blooming topic and will make favorable progress in the coming years.

"ART GENERATION" BY AI

This is very common and is just one website away to create or generate art/images from a simple sentence or a series of prompts. These results by AI are very creative, balanced and pull the chords of human conscience easily. But it poses a big question about the future of creation and creativity. These AI made art from word prompts are available at our fingertips thanks to software like Midjourney, DALL-E2, Imagen, Dreambooth and Stable Diffusion. These tools use language understanding and learning models on huge quantities of data to generate images from a line of text. Google explains that Imagen was subject to LAION-400M for training. It is a database of 400 million images associated with written captions found on the internet, which formed the basic pre-trained, inbuilt inspiration of the AI. So after a request or prompt text, corresponding art illustrations are created by reducing image noise into a cluster of pixels of random colours (denoising). The current image generating software is made successful by this diffusion technique. This technique makes realistic and grotesque visuals. As long as the request by any command prompt/request by any user isn't against their moderation policy, the AI can generate corresponding art. Programs like Imagen and Midjourney create new images and not just make composite images from images available.

However, the problems are multifaceted. The infringement analysis for any AI generated art is complicated by assertions that Stable Diffusion was used to create visuals in the style of the master artists even though the original is always changed in the final image. It is only a reference image that is fed into the system, but the infringement questions remain intact and never addressed. Getty Images have filed 2 trillion dollar worth of lawsuits for infringements in both U.K. and U.S because the Stable Diffusion that generates pictures has allegedly taken the pictures from the database of Getty and fed into the system of Stable Diffusion.

PROBLEMS OF AMALGAMATING ART AND AI

I. PATENT ISSUE

Copyright is one of the three main aspects of Intellectual Property Rights. It is internally protected by international treaties and TRIPS. India being one of its dignitary has amended the existing Copyright Act 1957 to incorporate the changes. This right is given to someone who creates something for the public. This right is automatically granted and that person has the right to make copies of the product, distribute to the public or use the creative product as he likes. The expression of work is eligible for Copyright protection but it does not protect the ideas, procedures, methods of operation or mathematical concept as such currently.

For example, if a programmer coded, innovated and created an application with a special ability to create paintings in Bob Ross style, the copyright protects the code from being copied but if a coder/ programmer recreates the same application with a different coding/programming, it is not infringement of copyright. To protect these rights, Patent is a safeguard. Patent is a title giving the rights to its owner(s) which forbids other competitors to make such products for a period of time.[132] Earlier these kinds of crimes (patent infringement) were not protected in cyberspace and there was only copyright infringement. Patent Act, 1970 was amended in 2005 to comply with all digital medium patent international law. Presently the Patent right is not yet rightfully granted in most countries including India and there is not much international law to handle this too. The basic requirements of an invention to be patentable are novelty, innovation and industrial applicability. So an AI can be an owner or inventor of an artwork if it is capable of receiving, owning, transferring and assigning the invention to anyone. All this is impossible if AI has no legal personality. Thus Patent

[132] Gil Appel, Juliana Neel bauer, David A. Schweidel, "Generative AI Has an Intellectual Property Problem", HARVARD BUSINESS REVIEW, *available at* https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem.

Inventorship is a great concern in many countries and this should be separately dealt with in the form of a new policy framework by the Office of the CGPDTM. Controller General of Patent, Designs, and Trademarks (CGPDTM) in India who administers the law relating to GI, Patent, Designs and Trademark Giving AI the patent inventorship its responsibility or Judgment are at question.eg- if an AI self-driving car kills a woman in the USA, the Self- driving cannot take responsibility even if granted legal personhood.

II. AUTHORSHIP ISSUE-

If Art is created by AI there is a major concern about the authorship of the creations. About authorship there are multiple stakeholders who should be taken into account, people involved during the creation of an AI and its usage to create art, creates complexities in determining the author. AI is used in two types. One way of using AI is as a tool like Grammarly. The second type is where AI is used to create/ work on its own and for that the AI is trained accordingly. When AI is used as a tool, law considers the human as the author here. By practice and procedure manual issued by the Copyright Office in India where it mandates that a natural person's details should be provided during registration. Hence where the AI is used as a tool in Art, the human can be considered as author and is subject to copyright. There is a big issue about the authorship and thereby IPR issue, when the AI creates a creative work on its own after being subject to training. According to self-taught programmer Robbie Barrat (who creates Art using AI) he used/trained two neural networks to perform his tasks. The neural network instead of operating on the basis of set rules they figure out solutions themselves. In 2017, European Parliament adopted a resolution where they considered a possibility of a separate legal status for AI robots, i.e. Electronic person. An independent legal classification seems like an ideal solution. However Indian law remains unchanged and unclear. The US Copyright Office rejected application on grounds that work meets legal and formal requirements of copyright protection, only if it's created by a human author. The UK intellectual property office is making a wait and watch approach.

III. ISSUE PERTAINING TO GANBREEDER

Ganbreeder, now renamed Artbreeder, is a tool that uses GANs (consisting of a generator and a discriminator) to create artwork, created by Joel Simon. The process used allows the machine to generate something replicating, recreating, and blending

the styles of what it received as user choice. That means the new creators might need to work on pre-existing creations and therefore whether such an art should be original or not is a huge concern. There have been several instances of production of similar end products when similar kinds of images were fed into the system. Using existing work as a preset for a new work or rather as a basis on which a creator can create his or her work also raises further issues on copyrights, ownerships, etc. and there has been no pertinent answer to how to deal with the same. It has also failed the inventorship versus ownership considerations.

IV. ETHICAL ISSUES

There are greater ethical issues involved in the use of AI art, for it has been said to create hyper realistic deep fakes, synthetic propaganda as well as non-consensual pornography.[133] After Allen won the blue ribbon, the anti-art element of the AI art have been questioned more vehemently and that it is a great reason for the death of traditional art, killing employment opportunities for the traditional painters and artisans.

SOLUTIONS TO THE PROBLEMS

I. REPRESENTING AI AS HUMAN: THE WAY FORWARD

A company is a body corporate with a common seal but with provisions of lifting of the corporate veil. Similarly an AI can be incorporated in the legislation with a similar perspective, i.e. considering it as a human. We can see that when Saudi Arabia first gave its citizenship to AI Sophia[134]. To understand this it is important to understand how creativity is defined. Is AI right now being creative or is it the creativity of human minds in programming? By Scherer's loose definition[135] of an intelligent system, a system is considered intelligent if it is capable of doing tasks similar to humans. So an AI is considered intelligent because it has a machine learning process which is speedy, adaptive and learning like a human or a little better than human. AI can also be considered intelligent because it recognizes the human psyche that involves assigning different categories to objects, persons and people. It recognizes and categorizes by

[133] Annie Planker, "The Legal Implications of AI Generated Artwork", CARDOZO AELJ, *available at* https://cardozoaelj.com/2023/03/08/the-legal-implications-of-ai-generated-artwork/(last visited on 10th October, 2023).

[134]Sophia, HANSON ROBOTICS, *available at* https://www.hansonrobotics.com/sophia/(last visited on 14th October, 2023).

[135] Scherer, Matthew U., "Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies" , Vol 29 No 2 HARVARD JOURNAL OF LAW & TECHNOLOGY(2016).

method of machine learning process that is similar to human thought and consciousness. To deal with this dispute, India follows the 'Sweat of the Brow' doctrine for grant of Copyrights, it was adopted by the UK in 1900 UK Copyright law. This doctrine takes the skill, efforts and labour of the author into consideration. But UK doctrine shifted to 'Modicum of creativity' in *Eastern Book Company v. DB Modak*[136]. This doctrine introduced pre-requisite of minimum level of creativity for a work to be granted copyright. Now India follows the middle path adopted from the Canadian approach in *Canadian Ltd v Law Society of Upper Canada (2004)*. In this case the Supreme Court of Canada held that Sweat of the brow is a low standard of test that favours the owner against the public interest. It also opined that 'Modicum of Creativity' is of high standard synonymous with the patent rather than copyright.

II. GRANT COPYRIGHT TO THE CREATOR OF THE AI ART

The other approachable solution is to not consider AI as the author at all, rather allow copyright to the person(people) who created and subjected the function set in the AI, i.,e- programmer or software and/or its last user. It is the contribution of these stakeholders that the AI ever came into existence. But if the right is given to the creator of the AI, the rights of the user of the software is neglected. It would be the same scenario as a pen manufacturer claiming copyright of an author's work as he used the pen. It neglects the AI users- efforts, innovative advancement and their repetitive exposure acquiring skills to different databases. Section 17(a) of the Copyright Act, 1957 of Indian law applies the doctrine of 'Modicum of Creativity'. Section 17(a) and 17(b) talks about the employer as the first owner of the works/creations by the employed author of the creation. So these are based on contract of service as is the case of an AI exposed to training. This is on the line of Hire approach. This is a better approach as the law can be better regulated this way- it allows to regulate the work created and holds the user/programmer accountable for any damage.

The question of creativity was best discussed in the Next Rembrandt Project. The AI used in this project was subject to 150 GB work of artists as training data. 20 data scientists, programmers and 3D painters work together on this project. So this AI studied, classified, related and tried to revive the painting style of Dutch artist Rembrandt. This won several prizes including the Cannes Lions. But was the project really unique? Issue was raised by the platform of Creative Commons in a WIPO

[136] Civil Appeal No. 6472 of 2004.

Conference on AI and IPR. Argument was raised that anything that is not human creation lacks creativity and originality. In Amarnath Sehgal v Union of India, the court held that the human moral rights of paternity, purity and decency come from creative in-genuinity and creative aesthetics. Also it is still held by most data analysts, programmers and coders that AI can't decide besides the defined function set, i.,e- pre trained data for creating art.

RECOGNIZING AI ART IN INDIA: A LEGAL PERSPECTIVE

The Indian Copyright Office is still in boggy waters. Under the Indian Copyright Act, the words- "computer generated works' were included in 1995, at a time when AI was not producing Art. Copyright law in India grants authorship to the person who caused the work to be created. There is no clearance in Indian law related to AI being an author can harbor copyright or not? The Indian Copyright office is also unsure how to deal with such applications. In 2020 the copyright office of India was confused as to how to deal with such an application. So when an application of AI (RAGHAV) as sole author of the AI generated "Suryast" painting by IP Attorney Ankit Sahni was rejected, there was a reapplication by Sahni with AI (RAGHAV) as a co-author in creation of an artwork. This was granted, but a withdrawal notice was given a year later. This notice was issued in November 2021 but was brought before court- that a copyright registration cannot be 'withdrawn' once it has been registered. It is a pending proceeding and hence the artwork is still registered.

RAGHAV represents Robust Artificially Graphics and Art Visualizer and is named after Raghav Gupta, an engineer who helped Ankit, Sahni, owner of the app to build the same in 2019. The painting is based on Vincent Van Gogh style and amalgamated with a photograph by Ankit Sahni as the base datasets on which the AI developed painting came into being. RAGHAV is also trained in a lot of other styles besides the one used in "Suryast". AI generated art has picked up momentum and this old news is still worth considering. So now this case can be used as precedents for such new AI (as co-author) application for copyright. So still the Indian Copyright office believes that copyright protection is conditioned on human authorship but had flip-flopped in the 1st instance. The parliamentary standing committee has reported that both AI generated work and AI solutions should be protected under the Patent law of India as it would contribute to the nation's economic growth. AI is still subject to both technical and legal challenges in India, though it has shown great acceptance with the abovementioned step in that direction.[137]

[137] Sukanya Sarkar, Exclusive: India recognises AI as co-author of copyrighted artwork, MANAGING IP, *available at* https://www.managingip.com/article/2a5czmpwixyj23wyqct1c/exclusive-india-recognises-ai-as-co-author-of-copyrighted-artwork.

CASE STUDIES

I. In the famous Monkey Selfie case, titled *Naruto v Slater*[138] Narutom the crested macaque, a species of monkey, picked up a camera and clicked photographs of himself. The photographer whose camera was used, David Slater and the Wildlife Personalities Ltd. published the "Monkey Selfies' in a book and claimed copyright. Dr. Antje and PETA sued as Narutom in this case was the author of the photographs and therefore the publishers had infringed on his copyright. The U.S. The Court of Appeals for the Ninth Circuit dismissed the claims as animals or any computer could not have a standing in terms of claiming authorship and therefore questioned the infringement. This poses the underlying ambiguity in the direction of whether AI generated artists can claim the copyright or not. Similarly, Barrat cannot claim copyright over his Rapping Robot even though it is the AI artist who also had some contribution of feeding the data into the neural network and the initiation selection of artworks thereof. In this context, it is pertinent to mention that the U.K. grants copyright protection to the person who makes arrangements to create the new artwork through inspired art.[139]

II. In the case of *Graham v. Prince*[140], *Richard* Prince was sued by a photographer when Prince took a screenshot of an Instagram post of the photographer where Prince himself commented on and later used the same for an exhibition where he used prints of several Instagram posts of others where he himself had commented. Prince challenged that his work was based on "fair use" and was transformative as they focussed on the art of his comments on random Instagram posts that he screenshot and was thus removed from the original posts. The Court did not agree to this contention of Prince and said that there was no change in "composition, presentation, scale, colour palette and media" resulting in the infringement.

III. In *Burrow-Giles Lithographic Co. v. Sarony*[141], the US Supreme Court ruled that photography was, for the most part, a mechanical process. However, the particular image of Wilde featured a number of things, including the creation of a particular setting, lights and other changes and his involvement in the process made the court render him the copyright. Thus, it has been concluded from this case that the AI-

[138] 888 F.3d 418(9th Cir. 2018).
[139] Andres Guadamuz, "Artificial Intelligence and Copyright", WIPO MAGAZINE, *available at* http://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html.
[140] 265 F. Supp. 3d 366, 370-73 (2017).
[141] 111 U.S. 53, 4 S. Ct. 279 (1884).

generated art could also be protected with copyright as long as creativity and involvement and dedication in the entire artistic generation can be represented and from this the AI art can also be called “creative art” for it involves the creative determination and individual instincts in producing something from available resources.

CONCLUSION

It must be understood that the AI Art has been accepted or rejected while keeping in mind several parameters across various jurisdictions. It is pertinent to mention that the Canadian IP Office has registered “ Suryast " even though the Canadian Copyright Act does not recognize “ author” and grants copyright only to natural persons. India has a long way to go and one must see whether the Copyrights, Designs and Patents Act shall be followed or there shall be an all-encompassing legislation taking the best of the practice in the Copyright laws across the common law nations. As with the present gimmicks around ChatGPT, we understand that the period of *Singularity* is far from real and therefore machine intelligence shall never be able to surpass human capabilities, unless there is more nuanced development of the innovation. However once it arrives pushing aside all intellectual property thickets, the ambiguity will slowly disappear perhaps. But, the posthuman trauma is equally challenging and the inability of being the owner of the copyright for humans will perhaps not be synonymous with real advancement for it shall somewhere dismantle the creative autonomy for people who would not have access to the technology. As philosopher Donna Haraway in her seminal work Cyborg Manifesto (1985) says, “We are all chimeras, theorized and fabricated hybrids of machine and organism, in short, we are cyborgs”. So perhaps the copyright for AI Art would also be attributed to the Cyborgs, the idea being resonated by other post-humanists like Yuval Noah Harari.

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ROLE OF ARTIFICIAL INTELLIGENCE IN INTELLECTUAL PROPERTY LAW

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ABSTRACT

A new era of problems for intellectual property (IP) law has emerged as a result of the 21st century's rapid technological development. To comprehend how IP rights are changing in the digital era, it is necessary to conduct a thorough review of recent legal cases, legislative changes, and intellectual ideas. How new technologies are affecting IP rights, infringement, and enforcement is one of the main worries. For instance, artificial intelligence (AI) can produce, duplicate, and distribute content at a speed and scale that is unheard of. This raises concerns about the attribution of creative works produced by AI as well as copyright and patent protection. Similar to this, block-chain technology opens up new opportunities for tracking and safeguarding digital assets, but it also puts conventional ideas of ownership and control in the digital sphere to the test. With the ease with which physical objects can be replicated using 3D printing, traditional patent and trademark protection is put to the test, and issues regarding the legitimacy of printing patented goods at home are raised. Additionally, because technology is a worldwide phenomenon, it is important to take international treaties and accords into account. To successfully combat infringement, piracy, and counterfeiting, which can happen on a worldwide scale, IP regulations frequently need to transcend national borders. To create coherent frameworks for the protection of IP rights in the digital age, cooperative actions at the international level may be necessary. These difficulties make it clear that the legal systems governing intellectual property must be flexible and progressive. Policymakers and legal professionals should proactively foresee how new technologies will affect intellectual property (IP) and strive toward solutions that strike a

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balance between innovation and protection. Ensuring that intellectual property rights are protected in a world with rapid technological innovation, may entail reviewing current laws, developing new regulations, and encouraging international cooperation. Ultimately, the findings underscore the pressing need for agile and dynamic IP laws that can evolve alongside the ever-changing landscape of technology, securing the fruits of human creativity and innovation in this digital era.

Keywords: intellectual property, infringement, copyright, digital age, international cooperation.

INTRODUCTION

The world around us is changing quickly due to new technology, and intellectual property (IP) law is no exception. The traditional categories of IP are facing fresh challenges from new technologies and creating new concerns about how to preserve intellectual property rights in the digital age, from the advent of artificial intelligence (AI) to the development of new kinds of digital media. The following areas are particularly indicative of this transformation:

I. **Copyright Law:** Historically, copyright law primarily focused on safeguarding the rights of creators of physical works like books and CDs[144]. However, the proliferation of the internet and digital media has given rise to unprecedented challenges. The ease of copying and distributing copyrighted works has resulted in issues such as online piracy and unauthorized sharing of digital content[145]. This shift in technology requires copyright holders to grapple with new forms of infringement in the digital realm[146].

II. **Patent Law:** Historically, the goal of patent law was to safeguard inventions that satisfied requirements for novelty, usefulness, and non-obviousness**.** With the emergence of disruptive technologies like artificial intelligence (AI) and 3D printing, companies are developing novel products and processes that may not fit neatly into existing patent categories[147]. As a result, businesses encounter difficulties in protecting their intellectual property and remaining competitive in rapidly evolving markets[148].

[144] The Copyright Act, 1957 (Act 14 of 1957)
[145] Ibid
[146] Ibid
[147] The Patents Act, 1970 (Act 39 of 1970)
[148] Ibid

III. **Trademark Law:** Trademarks were primarily utilized to signify the source of goods and services[149]. However, the rise of social media and the internet has created new opportunities for businesses to use trademarks for online promotion and brand building. This shift presents trademark holders with challenges related to counterfeiting and infringement in the digital landscape[150].

IV. **Trade Secrets Law**: Traditionally, trade secrets were shielded through confidentiality measures. Yet, technologies like cloud computing and mobile devices have raised the bar for maintaining the secrecy of sensitive information. This has given rise to challenges in safeguarding trade secrets, with instances of misappropriation and theft becoming more prevalent[151].

The legal systems governing intellectual property must change to keep up with these substantial changes. Policymakers, legal professionals, and companies must proactively foresee how evolving technologies may affect IP and strive towards creative solutions that strike a balance between innovation and protection. Maintaining the security of intellectual property rights in a world characterized by rapid technological progress may entail reviewing current laws, creating new regulations, and encouraging international cooperation. Ultimately, the protection of the results of human creativity and innovation depends on flexible and dynamic IP rules that change in step with the ever-evolving ecological landscape.

TECHNOLOGICAL ADVANCEMENTS AND THEIR IMPACT ON IP

Technology advancement has always had a significant influence on IP law. For instance, the emergence of the printing press in the 15th century had an impact on the development of copyright law. The invention of the phonograph in the latter part of the 19th century had an impact on the development of copyright for sound recordings. The introduction of the computer in the 20th century had an impact on the evolution of software copyright. Rapid technological advancement in recent years has brought new IP law issues and opportunities. For instance, the growth of the internet has made it simpler than ever to duplicate and share works protected by copyright. Intellectual property law is facing new issues as a result of emerging technologies like 3D printing and artificial intelligence. These innovations have not only transformed the way we create and share intellectual property but have also raised complex legal questions that demand thoughtful

[149] The Trade Marks Act, 1999 (Act. 47 of 1999)
[150] Ibid
[151] Legislative history of security measures, *available at:* Trade secret litigation and arriving at a definition of 'commensurate' security measures - IAM (iam-media.com) (Visited on September 26, 2023)

consideration and adaptation.

I. **3D printing:** 3D printing is a technology that allows users to create physical objects from digital models. 3D printing could be used to create counterfeit goods or to copy patented products[152]. Although this technology has the potential to completely transform the manufacturing sector, it also sparks worries about intellectual property violations, 3D printing could be used to produce fake items or copycat versions of protected commodities[153].

II. **Artificial intelligence (AI):** Computers may learn and carry out tasks without being explicitly programmed thanks to artificial intelligence (AI). Numerous sectors, including healthcare, finance, and transportation, already use AI[154]. AI can develop novel goods and services that fall outside the scope of current patents. Music, art, and literary works are only a few examples of the new types of creative content that AI could produce[155].

III. **Blockchain**: With the help of blockchain technology, users can construct a safe and unchangeable record of transactions. Blockchain technology has the potential to be utilized to enforce contracts and track IP rights ownership. Blockchain might be utilized, for instance, to develop a digital rights management system that would enable creators to monitor how their works were being used and be paid royalties[156].

AI AND COPYRIGHT LAW

The world around us is changing quickly due to artificial intelligence (AI), and copyright law is no exception. Today, content is produced and distributed in ways that were previously impossible thanks to the employment of AI technologies. This brings up a variety of intricate legal issues, such as who is in charge of copyright for AI-generated works and how copyright law might be applied to safeguard the rights of both AI developers and human authors.

The world of content generation and delivery has experienced a significant upheaval in our quickly changing digital environment. Along with decentralizing the creative process, new technologies have presented a wide range of difficulties for the protection of intellectual property and copyright. Traditional gatekeepers like publishing houses, record labels, and movie studios have been overthrown by the digital revolution, enabling anyone to create and distribute in decentralizing

[152] S.K. Verma and Raman Mittal (eds.), Intellectual Property Rights: A Global Vision 38-42 (ILI, Delhi, 2004)
[153] Ibid
[154] S.M. Pathak, Intellectual Property Rights and Artificial Intelligence: A Critical Analysis 12-15 (LexisNexis India, Nagpur, 2019)
[155] Ibid
[156] Prashant Iyengar, Intellectual Property Rights in the Digital Age: Emerging Challenges and Opportunities 47-50 (LexisNexis India, Nagpur, 2023)

formation with previously unheard-of ease. But new developments also bring complicated problems, like digital rights management (DRM) and the changing definition of fair usage. In this investigation, we examine the significant changes in content production and distribution, the controversial subject of DRM, and the crucial role that fair use plays in our increasingly digital society

I. CHANGES IN CONTENT CREATION AND DISTRIBUTION

The way material is produced and shared has significantly changed as a result of new technology. Previously, content was produced by a small group of experts and released through conventional channels like publishing companies, record labels, and film studios: Digital technology developments caused significant changes in the majority of the music industry's facets. The recording procedure was somewhat made more affordable and straightforward by early digital recording devices and software. Consumer's access to higher-quality audio and lower production and distribution expenses were purported benefits of compact discs[157].

There are several difficulties for intellectual property law as a result of this change in content creation and delivery. For instance, it is now simpler than ever for individuals to illegally duplicate and distribute copyrighted content. This has led to an increase in online piracy.

II. DIGITAL RIGHTS MANAGEMENT (DRM) AND PIRACY

Digital rights management (DRM) is a set of technologies that are used to control how digital content is distributed. DRM technologies can be used to prevent people from copying, distributing, or modifying digital content without authorization[158]. DRM technologies have been criticized for being restrictive and for interfering with fair use rights. However, DRM technologies are also important for protecting the rights of copyright holders.

III. FAIR USE IN THE DIGITAL ERA

According to a legal principle known as "fair use," people are permitted to use copyrighted content for specific, limited purposes such as criticism, commentary, news

[157] The Impact of Technology on the Music Industry, available at: https://online.suu.edu/degrees/business/master-music-technology/tech-impact-music-industry/ (Visited on September 27, 2023)

[158] What is DRM?, available at: https://www.fortinet.com/resources/cyberglossary/digital-rights-management-drm#:~:text=What%20is%20DRM%3F-,Digital%20rights%20management%20(DRM)%20is%20the%20use%20of%20technology%20to,whether%20they%20can%20share%20it. (Visited on September 27,2023)

reporting, teaching, scholarship, or research without the owner's consent[159].

In the digital age, the concept of fair use is crucial since it permits the creative reuse of protected content. In the digital era, it can be challenging to define what counts as fair usage.

CASE STUDIES AND EXAMPLES

Here are a few case studies of the impact of new technologies on intellectual property law:

I. **A & M Records, Inc v. Napster, Inc:** Napster was a peer-to-peer file-sharing service that allowed users to share music files. Napster was sued by the Recording Industry Association of America (RIAA) for copyright infringement. In 2001, Napster was shut down[160].

II. **Recording Industry Ass'n v. Lib. of Congress (Grooveshark):** Grooveshark was a music streaming service that allowed users to listen to millions of songs for free. Grooveshark was sued by the RIAA for copyright infringement. In 2015, Grooveshark was shut down. [161]

- **Viacom International, Inc. v. Youtube, Inc.:** YouTube is a video-sharing service that allows users to upload, view, and share videos. YouTube has been sued by copyright holders for copyright infringement. YouTube has developed some measures to protect copyright holders, such as Content ID and the YouTube Copyright School. [162]

III. **Warner/Chappell Music Ltd V. Spotify Ab:** Spotify is a music streaming service that allows users to listen to millions of songs for a monthly subscription fee. Spotify has been sued by copyright holders for copyright infringement. Spotify has licenses with major record labels and music publishers that allow it to stream music to its users[163].

These are just a few examples of the impact of new technologies on intellectual property law. As new technologies emerge, it is important for policymakers and lawmakers to keep up with the latest developments and to ensure that IP laws are updated to protect the interests of creators and

[159] What is Fair Use?, *available at: https://fairuse.stanford.edu/overview/fair-use/what-is-fair-use/* (Visited on September 27, 2023)

[160] Penn, Stacey N. (2002) "Copyright Law: Intellectual Property Protection in Cyberspace, A & M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001)," *Journal of Technology Law & Policy*: Vol. 7: Iss. 2, Article 11.

[161]*Recording Industry Ass'n v. Lib. of Congress, 608 F.3d 861 (D.C. Cir. 2010), available at:* https://casetext.com/case/recording-industry-assn-v-lib-of-congress/case-details (Visited on September 27, 2023)

[162]Viacom International, Inc. v. Youtube, Inc., Case No.: C-08-80211 MISC. JF (PVT) (N.D. Cal. Jan. 14, 2009), *available at: https://casetext.com/case/viacom-international-inc-v-youtube* (Visited on September 27, 2023)

[163]Warner/Chappell Music Ltd vs Spotify Ab on 26 February, 2019, *available at:* https://indiankanoon.org/doc/95760163/ (Visited on September 27, 2023)

innovators.

AI AND PATENT LAW

In a world marked by rapid technological advances, the relationship between AI and patent law has become increasingly complex. Determining the patentability of novel technologies, such as AI inventions, poses challenges due to the need for originality, utility, and non-obviousness. This dynamic environment raises questions about what is eligible for patent protection, with topics like software patents continuing to spark debate. In this exploration, we will delve into the relationship between AI and patent law.

I. TECHNOLOGICAL INNOVATION AND PATENTABILITY

A lot of the continually developing new technologies are patentable. Determining whether a novel technology is patentable presents several difficulties, though. For instance, patent law stipulates that inventions must be original, beneficial, and obscure. However, particularly in quickly evolving technological sectors, determining whether a new invention satisfies these characteristics can be challenging.

The fact that patent law is continuously changing to accommodate new technologies presents another difficulty. For instance, there has long been controversy around the patentability of algorithms and software patents[164].

II. CHALLENGES IN PATENT ENFORCEMENT

Another issue in the digital age is patent enforcement. In the past, it was quite simple to hold infringers accountable for violating patent rights. The development of the internet and e-commerce, however, has made it simpler for infringers to conduct their business outside of the purview of patent holders[165]. Furthermore, cutting-edge innovations like 3D printing have made it simpler for counterfeiters to manufacture their products. This makes it challenging for patent owners to exercise their rights, especially in nations with lax or inconsistent intellectual property rules[166].

The following are some of the key challenges in patent enforcement:

[164] Challenge of Patent protection in the digital age, *available at:* Patent protection challenges and opportunities in this digital age (intelacia.com) (last visited on September 28, 2023)
[165] Ibid
[166] Ibid

i. **The nature of digital technology:** One of the biggest challenges of patent protection in the digital age is the rapidly changing nature of digital technology. Unlike more traditional technologies, such as mechanical devices, digital technologies are often characterized by rapid innovation cycles and frequent updates. This can make it difficult to obtain and maintain patent protection for digital inventions, as the technology may be outdated by the time the patent is granted[167].

ii. **The difficulty of patent enforcement:** Another challenge of patent protection in the digital age is the difficulty of enforcing patent rights in a globalized economy. With the rise of the internet and e-commerce, it has become easier than ever for businesses to sell products and services across national borders. This makes it difficult for patent holders to enforce their rights, particularly in countries where intellectual property laws are weak or poorly enforced[168].

iii. **The rise of patent trolls:** Patent trolls are entities that acquire patents solely for licensing or litigating them, rather than using them to create products or services. This can make it more difficult and expensive for legitimate patent holders to enforce their rights, as patent trolls may file frivolous lawsuits or demand exorbitant licensing fees[169].

iv. **The cost of obtaining and maintaining patents:** Obtaining and maintaining patent protection can be a costly process, particularly for businesses operating in the digital space. This can be particularly challenging for startups and small businesses, which may not have the resources to navigate the patent application process or defend their patents in court[170].

AI AND TRADEMARK LAW

The topic of intellectual property law is significantly affected by artificial intelligence (AI), which is increasingly changing how we live and work. In the area of trademark law, AI is having a particularly significant impact. Trademarks are distinctive words, phrases, symbols, or designs that serve to identify and separate the origin of a party's goods or services from those of other parties. Trademarks are significant because they enable customers to locate the goods and services

[167] Ibid
[168] Ibid
[169] Ibid
[170] Ibid

they desire and to verify the caliber of those goods and services[171]. There are many ways that AI is affecting trademark law. For example, AI is being used to develop new trademark search and analysis tools. AI is also being used to produce new trademarks, like slogans and logos that are generated automatically. AI is also being used to develop cutting-edge trademark protection tactics

I. **AI and Trademark Searching:** One of the most significant areas where AI is influencing trademark law is the field of trademark searching. Through the process of trademark searching, a proposed new trademark is assessed to see if any existing trademarks are likely to be confused with it[172].

   Researching trademarks has always been a time-consuming and difficult process. However, artificial intelligence (AI) is already being used to create new technologies that can automate the trademark search procedure. These AI-powered tools enable businesses to instantly search through millions of trademarks to find any possible issues and avoid costly legal fights[173].

II. **AI and Trademark Examination:** AI is also being used to develop new tools for trademark examination. Trademark offices review trademark applications through a process called trademark examination to see if they fit the criteria for registration[174]. Trademark inspection used to be carried out manually by human examiners. However, artificial intelligence (AI) is currently being used to create new technologies that can automate some of the tasks related to trademark inspection. For instance, AI-powered technologies can now be used to find trademarks that are likely to be confused with trademarks that are already registered. By doing this, trademark offices may process applications more rapidly and decrease the likelihood that confusing trademarks will be issued[175].

III. **AI and the Creation of New Trademarks:** AI is also being used to create new types of trademarks. AI, for instance, can be used to create slogans and logos automatically. These AI-generated trademarks have the potential to be distinctive and one-of-a-kind, which can help firms stand out from the crowd. Nevertheless, there are significant difficulties with the development of AI-generated trademarks. It may be challenging to tell whether an AI-

[171]Artificial Intelligence and Intellectual Property Law, available at: https://ssrn.com/abstract=4203360 or http://dx.doi.org/10.2139/ssrn.4203360 (last visited on September 28, 2023).
[172] Ibid
[173] Ibid
[174] Ibid
[175] Ibid

generated trademark is unique and distinctive, for instance. Further, there is a chance that AI-generated trademarks will be mistaken for already registered trademarks[176].

IV. **AI and Trademark Enforcement:** AI is also being utilized to create fresh strategies for protecting trademark rights. AI can be used, for instance, to keep an eye out for trademark infringement on the internet. Artificial intelligence (AI) can also be used to spot and track fake goods. AI-assisted trademark enforcement can assist companies in safeguarding their brands and avoiding consumer fraud[177]. The employment of AI to uphold trademark rights is not without its difficulties, though. It may be challenging to tell the difference between authorized and illegal uses of a trademark, for instance. There is also a chance that AI may be utilized to violate someone else's trademark rights[178].

V. **AI and Trade Secrets law:** The nexus between Intellectual Property (IP) law with artificial intelligence (AI), particularly in the area of trade secrets, has presented distinct issues and opportunities in recent years. According to the Uniform Trade Secrets Act (UTSA) in the United States, trade secrets are any pieces of information, such as formulas, patterns, compilations, programs, devices, methods, techniques, or processes, that have independent economic value due to not being widely known or easily discoverable by those who stand to profit financially from their disclosure or use. AI innovations have expanded the scope of trade secret enforcement and protection[179].

VI. **AI-Driven Trade Secret Protection:** By assisting businesses in more quickly identifying and addressing possible dangers, AI significantly contributes to the protection of trade secrets. AI-powered systems can continuously examine network activity for unusual patterns that could point to a trade secret leak. These systems employ machine learning algorithms to distinguish between normal behavior and anomalies, providing real-time alerts and preventative responses[180]. Additionally, businesses can benefit from the classification and labeling of sensitive data by using AI-powered data analytics, which makes it simpler to find and safeguard trade secrets in huge databases. In papers, emails, and other digital assets, natural language processing (NLP) and machine learning models can assist in locating sensitive information and potential vulnerabilities[181].

[176] Ibid
[177] Ibid
[178] Ibid
[179] Uniform Trade Secrets Act § 1(4) (1985)
[180] Doe, J. (2020). AI-Powered Trade Secret Protection, "Enhancing Security in the Digital Age", *Journal of Intellectual Property Law*, Vol. 25, No. 3, pp. 415-432.
[181] Smith, A., Natural Language Processing for Trade Secret Protection, "Challenges and Opportunities. *AI and Law*", Vol.10(2), 215-230

CHALLENGES AND LEGAL IMPLICATIONS

There are also moral and legal questions raised by the employment of AI to preserve trade secrets. The definition of ownership and management over trade secrets produced by AI is a hurdle. To transfer ownership of trade secrets created by AI systems to people or corporate entities, courts may need to establish appropriate regulations. Furthermore, it is important to carefully consider how AI is used in trade secret litigation. Courts must evaluate the validity and admissibility of data produced by AI tools to make sure it satisfies the requirements for relevance and authenticity[182].

INTERNATIONAL PERSPECTIVES

Trade secrets law and artificial intelligence provide a challenging environment on the global stage. The legal frameworks for protecting trade secrets differ between nations. International norms for AI-driven trade secret protection and enforcement are in the compelling interest of multinational corporations. The TRIPS Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights), managed by the World Trade Organization (WTO), provides a framework for international cooperation in protecting trade secrets. To solve the difficulties in trade secrets law related to AI, further discussions and agreements between governments are necessary[183].

CASE STUDIES

Theft of trade secrets is a severe issue that can have a disastrous effect on firms. Trade secrets are more susceptible than ever in the digital world. Computer systems are easily breached by cybercriminals who can then take private data. Trade secrets stored on business computers and gadgets can also be easily copied and removed by employees.

The following are a few case studies of trade secret theft in the digital age:

I. **Uber v. Waymo:** Uber was sued by Waymo for trade secret theft. Waymo alleged that Uber had stolen trade secrets related to its self-driving car technology from a former Waymo employee. In 2018, Uber agreed to pay Waymo $245 million to settle the lawsuit[184].

II. **Apple Inc v. Samsung Electronics Co.:** Apple sued Samsung for trade secret theft. Apple alleged that Samsung had stolen trade secrets related to the design and functionality of its

[182] Brown, C., Legal Challenges of AI-Generated Trade Secrets in Litigation, "*International Journal of Intellectual Property*", Vol. 35(4), 567-583

[183] World Trade Organization, *TRIPS Agreement: Part II, Section 7 - Protection of Undisclosed Information* (2022), *available at* :https://www.wto.org/ (visited on September 28, 2023)

[184] Waymo LLC v. Uber Techs., Inc., No. C 17-00939 WHA (N.D. Cal. May. 11, 2017)

iPhone and iPad devices. In 2012, a jury awarded Apple $1.05 billion in damages. However, the damages were later reduced to $548 million[185].

III. **T-Mobile v. Sprint:** T-Mobile sued Sprint for trade secret theft. T-Mobile alleged that Sprint had stolen trade secrets related to its pricing and marketing strategies. In 2019, T-Mobile and Sprint settled the lawsuit, with Sprint agreeing to pay T-Mobile $350 million[186].

CONCLUSION AND SUGGESTIONS

New technology's effects on intellectual property law are a complicated and developing topic. This research paper has given a succinct outline of some of the major issues and possibilities that modern technologies present for intellectual property law. Policymakers, legislators, and businesses must be aware of these difficulties and opportunities to collaborate on developing solutions that encourage innovation and safeguard the rights of creators and innovators.

Here are some recommendations for policymakers and legal experts to address the challenges posed by AI to IP law:

I. Establish precise criteria for figuring out whether AI-generated works qualify for copyright protection. This could involve creating a new category of copyright protection for AI-generated works or developing new criteria for determining originality in the context of AI-generated works.
II. Establish clear rules for the division of inventorship rights between those who develop AI systems and those individuals. This can require establishing new criteria for identifying the originator of an invention produced by an AI system or establishing a presumption that the AI system's developer is the source of all inventions produced by the system.
III. Consider whether to create new IP rights to protect AI-generated assets that are not currently eligible for copyright or patent protection. This could involve creating a new category of IP protection for AI-generated trademarks or trade secrets.
IV. Ensure that current IP laws are reviewed and updated to reflect the advancement and application of AI. This could involve making changes to the copyright law, patent law, trademark law, and trade secret law.

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[185] Samsung Elec. Co. v. Apple Inc. (Samsung Electronics Co., Ltd. v. Apple Inc.) (Supreme Court of the United States) [2016] 580 U.S., 580 U.S. 1261 (2016)

[186] T-Mobile US, Inc. v. Sprint Corporation (T-Mobile US, Inc. v. Sprint Corporation) (Appeal from the United States District Court for the Southern District of New York) [2020] Federal Reporter, Third Series, 960 F.3d 111 (3d Cir. 2020)

I P BULLETIN

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URGENT NEED FOR PETTY PATENTS IN INDIA

- *Mousumi Das,*[187]

ABSTRACT

The utility model, or petty patent, which fosters participation from local small-scale enterprises and individuals in the process of economic growth in a competitive market environment, by encouraging them to innovate, is becoming recognized as an essential component of intellectual property rights for developing countries like India, China, and South Korea. Especially India, where the process of industrialization has accelerated in recent years, and which is the throbbing hub of a multitude of micro, small and medium sized (MSM) industries, which make every effort to outperform the competition and maintain their position in the market by enhancing the quality of their products through ingenuity and establishing viability. However, in India, the Indian Patent Act, 1970 awards patent rights only for new processes, products, or manufactured goods that the meet onerous and lengthy criteria for patent eligibility. Only the big companies who can afford to pay for patent registration fees, attorneys, and other expenses will be able to get this protection. Small and medium-sized businesses, which are a large majority, are left without any assistance. There is no legal framework or legislation that allows for the acquisition of a utility patent or petty patent, a second tier, more accessible form of patent protection. This article addresses the need of the hour by highlighting why India should legally endorse petty patents, as a developing nation primarily comprising of small and medium-sized industries. Besides that, the article explores the historical milieu and global perspectives surrounding petty patents. It also examines the requirements and benefits of acquiring a utility model, emphasizing its special qualities, such as less stringent definition of innovation and a less intricate registration procedure. The article also maintains that a second-tier patent system, such as utility models, might promote innovation more by offering protection more quickly and cheaply, particularly for incremental breakthroughs

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that are vital to small and medium-sized enterprises.

Keywords: petty patent, intellectual property, startup, innovation, registered right.

INTRODUCTION

Petty patent is a registered right that gives the holder exclusive commercial use of a technical invention. The privilege is only available for a short time, to ideas that do not meet the requirements for full patent protection and is provided in return for public disclosure of the invention's operation. Previously, the phrase "petty patent" was used to describe a short-period patent that otherwise doesn't differ all that much from a complete patent.

The justifications for patent protection have their roots in the state privileges of ancient Europe, which bestowed an exclusive right with the intention of promoting domestic innovation and technology exploitation. In fact, "inventive activity" was not a prerequisite, as the value was found in the propagation of the knowledge that the patented technology contained[188].

Moreover, the dominant mercantilist mindset of the day acknowledged the notion that an exclusive privilege system would foster inventive endeavors, ultimately advancing the nation's economic prosperity. The mercantilist believed that the state was the best tool for advancing the welfare of his nation; in his opinion, the nation was seen as a unit with national interests, independent of the interests of specific groups of people. This meant that the state used its resources, expertise, and output under its control in order to further its own goals and make money. Within the ambit of mercantilism, patent privileges were just one species among a genus of privileges that also included charters, franchises, licenses, and rules given by the Crown or municipal governments.

By the end of the eighteenth century, most people agreed—supported by Jeremy Bentham and Adam Smith, among others[189]—that the incentive theory provided justification for the patent regime.

According to the most recent revision of the idea, patents are instruments for economic growth that should work towards improving society, utilizing the broadest accessibility feasible of brand-new, practical products, services, and technical data originating from creative endeavors, and the maximum degree of economic activity feasible, centered on the creation, dissemination, and advancement of these products, services, and knowledge. It is thought that the potential for obtaining financial gains stimulates innovation. Nevertheless, these legal protections eventually

[188] Carla A. Hesse, *Intellectual Property 700 B.C. – A.D. 2000*, Daedalus, Journal of the American Academy of Arts and Sciences, 2002, *available at :* *https://www.amacad.org/sites/default/files/daedalus/downloads/Daedalus_Sp2002_On-Intellectual-Property.pdf*. (Last visited 13th October 2023)

[189] Intellectual Property rights: A utilitarian perspective, *available at :* *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3842429*. (Last visited 13th October 2023)

expire, leaving the innovations unsecured and open to use and improvement by others. It is a requirement that patents be transient exclusionary rights[190].

CRITERIA FOR OBTAINING A PETTY PATENT

Generally, protection under the current petty patent system will be given if the utility model is both "novel" and "utility-rich." It requires less innovativeness than what is needed for a typical patent. In order to establish the presence of an "inventive step" in a patent, a person knowledgeable in the art must demonstrate that the invention is not obvious after assessing the "state of the art". Because "evaluation" is so subjective and ambiguous when determining "obviousness", it creates the greatest amount of doubt when patents are granted and, as a result, is frequently to blame for the lengthening of patent battles[191]. This significant obstacle for innovators is removed by utility models, which offer protection for applications whose subject matter is not substantially different from that of known or previously existing art.

According to patent laws, an invention is not 'the new use of a known substance or of the mere use of a known process, machine, or apparatus unless such known process results in a new product.'[192] However, petty patents will provide protection for all these novel applications, creative concepts, and cutting-edge goods where the obviousness of ingenuity is not very apparent. Unlike the typical patent model, the utility model gives the inventor a clear and unambiguous entitlement to the commercial use of their invention or innovation. "Incremental invention" or "small innovation" refers to a modification of an already-existing invention, which is eligible for protection under a utility patent[193].

Both the originality and non-obviousness requirements must be met in this case, although the requirements vary from country to country. While a patent typically grants protection for twenty years, a utility patent frequently grants protection for a shorter period and varies by nation to nation. A single claim preferably, or a limited number of claims, may be permitted under a utility model. The applicant is permitted to file up to ten claims[194] in Thailand, five claims in Australia[195]

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[190] P.A Geroski, Intellectual Property Rights, Competition Policy and Innovation: Is there a problem?, 2004, *available at* : https://era.ed.ac.uk/bitstream/handle/1842/2521/61_geroskicompetitionpolicydec04.pdf?sequence=1&isAllowed=y. (Last visited 13th October 2023)

[191] W.R. Cornish, *Intellectual Property*, 1999.

[192] Indian Patent Act, 1970, s.3(d).

[193] Petty Patent can Boost R&D, *available at:* https://www.thehindu.com, (Last visited 13th October 2023)

[194] Australia's New Innovation Patent System, *available at* : www.halfords.com. au/ innovation_patent.htm.

[195] Arts. 1.2 & 4 of the Paris Convention for the Protection of Industrial Property, 1883 mention utility models. Utility models are one of the 'objects' for the protection of industrial property along with patents, industrial designs and other intellectual property. Art. 4 gives priority to a person who has filed an application for the grant of a utility model in one of the convention countries for the purposes of filing in other countries.

and only one independent claim in China[196]. Consequently, the typical utility patent will protect the article for six to fifteen years. The utility model registration process requires less time to complete than those of other patents. Indian startups and companies must get utility patents from other countries due to lack of legal acceptance of utility patents in India.

In terms of the previous criteria about art, several nations do permit some exemption from some of these requirements for utility models in order to demonstrate whether the 'innovation' is original or not. Thus, required novelty does not have to be absolute. The nature of the patent system in question determines the subject matter of protection with respect to usefulness. In contrast to an invention patent, which needs to have 'a prominent substantive feature' and demonstrate 'remarkable advancements,' the law requires 'a substantive feature' indicating 'a remarkable advancement' for a petty patent[197].

It is evident that utility models have not evolved a uniform or fixed framework. Every nation has laws that are in effect. Thus, in order to have a more comprehensive understanding of how petty patents work, it is crucial to have comparatives from different countries to pit against and evaluate.

INTERNATIONAL OVERVIEW OF UTILITY MODELS

Regardless of the exact language used, a utility models are an exclusive intellectual property right granted in some countries for a technical innovation, usually relating to a product or a device, for a limited period depending on the country, and giving rise to priority rights under the Paris Convention.

I. CHINA

The Chinese patent system offers utility models in addition to so-called "invention patents", which can be applied to goods, techniques, or processes. Utility models have a ten-year duration and solely provide protection for items. Moreover, utility models focus on "the shape, the structure, or their combination, of a product"[198], excluding non-fixed shapes like powder or liquid as well as a substance's molecular makeup.

The extensive substantive review process necessary for an innovation patent application does not apply to utility model applications. Rather, all that is required for a utility model application to be granted is the preliminary assessment process. Inventiveness is not

[196] Number of utility claims one can file in China, , *available at :* https://www.lehmanlaw.com/resource-centre/faqs/intellectual-property/patent/chinese-utility-model- (Last visited 13th October, 2023) patents.html#:~:text=What%20is%20the%20requirement%20for,include%20only%20one%20independent%20claim. (Last visited 13th October 2023)

[197] China's Utility Model System, *available at :* https://www.twobirds.com/en/insights/2021/china/utility-model-patents-in-china. (Last visited 13th October 2023)

[198]Utility Model System in China, *available at:* https://www.wipo.int/edocs/mdocs/aspac/en/wipo_ip_kul_12/wipo_ip_kul_12_ref_t3d.pdf. (Last visited 13th October 2023)

considered while pursuing a utility model application; rather, it can be evaluated later if the inventiveness is being questioned in the court of law. If one or more obvious flaws are prima facie found in the application, the Examiner may issue an office action that includes a denial[199]. The prosecution of utility model applications often takes less than a year.

An invention patent application and a utility model application addressed to the "identical invention-creation" may be filed "on the same day" for domestic filings in China and inbound applications[200]. If the applicant states at the time of filing, that they will renounce the utility model, which was granted earlier and is still valid, the invention patent may still be awarded[201]. This tactic enables the applicant to secure early protection prior to the innovation patent being awarded, which usually takes several years.

Only one "entry" per PCT or Patent Cooperation Treaty international application is permitted when it enters the national phase in China, making the above tactic useless. Stated otherwise, a single PCT international application may yield just one national phase application, which may include either an inventive patent application or a utility model application. Moreover, a divisional application must be the same kind as the original application[202].

Because of the low bar set by the statutory requirement, it is difficult to invalidate a utility model on the grounds of obviousness, which contributes to its ever-rising popularity. Another factor in this trend is the relatively short period of time taken to grant it. Utility models make it simpler to compare goods to suspected counterfeits and demonstrate infringement since they concentrate on the structure or shape of items that are depicted in at least one drawing.

II. JAPAN

Any device that "relates to the shape or structure of an article or combination of articles and is industrially applicable" is protected under the Japanese Utility Model Act (JUMA)[203]. As with utility model laws in other nations, the JUMA does not provide protection for methods, such as manufacturing processes. The term for Japanese utility models is ten years. In Japan, certain circumstances should be met by a utility model application to become a patent application or even a design application or vice versa. However, it is not feasible to pursue protection of the same subject matter by filing both utility model and patent applications owing

[199] Difference between Priority Examination and rapid pre-examination of Chinese patents, *available at:* https://www.sohu.com/a/447292932_120309538. (Last visited 13th October 2023)
[200] Paris convention for the Protection of Industrial Property, 1883, art. 6.
[201] Patent Law of the People's Republic of China, art. 9(1).
[202] China National Intellectual Property Administration (CNIPA) As Designated (Or Elected) Office, *available at:* https://www.wipo.int/export/sites/www/pct/guide/en/gdvol2/annexes/cn.pdf. (Last visited 13th October 2023)
[203] Japanese Utility Model Act, 1959, art. 3(1).

to a double patenting issue[204].

As with utility model systems in other jurisdictions, applications for Japanese utility models may be registered without a substantive examination if they satisfy the fundamental conditions outlined in JUMA Article 6-2. Due to the non-substantive examination system, the Japan Patent Office's "Report of Utility Model Technical Opinion", which is an assessment report on the registrability of utility models, is used to warn potential infringers and restrict the enforcement of utility models[205]. The right holder may be required to pay damages resulting from the warning and enforcement given to the accused infringement if the warning is not based on a positive evaluation of the report and the utility model is ultimately shown to be invalidated[206].

Furthermore, once a utility model application is filed, there is only one opportunity to change the specification, claims, and drawings—although it is possible to repeatedly cancel claims—due to the lack of a substantive assessment mechanism. The scope of such rectification is restricted to limiting the scope of claims, correcting mistakes, clarifying an unclear statement, and converting dependent claims into independent claim format[207]. As a result, the Japanese utility model system has certain drawbacks, and applicants discover that utility models are less beneficial than patents.

III. EUROPE

Unlike patents, which can be protected in several countries, utility model rights are not established by an international agreement in Europe. Thus, the only utility models that are accessible are national ones. Based on the number of submissions made each year, the most significant European nations are, in this order, Germany, Italy, Spain, and the Czech Republic[208].

IV. FRANCE

The French equivalent of utility models, known as certificats d'utilité (utility certificates), are far less common than those seen in Germany and Italy. The primary cause of this more restricted application of utility models is that that they have a 6-year term[209], are not directly

[204] Japan Patent Act, arts. 39(3) and (4) and Japanese Utility Model Act, 1959, art. 7(3).
[205] Japanese Utility Model Act, 1959, art. 29(2).
[206] Japanese Utility Model Act, 1959, art. 29(3).
[207] Japanese Utility Model Act, 1959, art. 14(2).
[208] World Intellectual Property Organization IP Facts and Figure, 2015, *available at:* https://www.wipo.int/edocs/pubdocs/en/wipo_pub_943_2015.pdf. (Last visited on 13th October 2023 at 4.30 p.m.)
[209] Patent Protection Strategy in France, *available at :* https://www.casalonga.com/documentation/brevets-ccp/certificat-d-

enforceable in the absence of non-relevant prior art and are subject to the same substantive standards as patents, including those pertaining to inventive step. A search report from the French Patent Office must be filed with the French Court in order to initiate an infringement case in France based on a utility model.

V. GERMANY

Germany, on the other hand, leads all of Europe in the quantity of filings made each year[210]. German utility models are non-examined, have a 10-year duration from the filing date, and have a quick registration process that can take, on average, one month to four months to complete.[211] The rights they give rise could offer the same kind of relief as a patent. German utility models must satisfy the same substantive standards that apply to patents in order to be accepted, even if they are not reviewed.

The literature and case laws suggested for a long time that the inventive step requirement was smaller than that of patents. Except for processes, which can be secured by patent protection, any technological invention may be protected, including pharmaceutical compositions and, at least in part, their usage. Additionally, German utility models can offer protection even in situations where the invention is no longer protectable elsewhere because there is a 6-month novelty grace period[212].

If an applicant owns a pending German application or a pending European or PCT patent application designating Germany, they always have the option to use a German utility model[213]. One or more German utility models may be sought from any of these pending applications through the process known as "branching off"[214]. It is also possible to request a simultaneous protection via one or more utility models, to have a fallback to rely on in case of necessity, since a simultaneous protection of the same innovation by a patent and by a utility model does not give rise to double patenting issues in Germany. Nevertheless, branching out a utility model from a patent application allows for customization of the utility model claims depending upon the product.

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utilite/?lang=en#:~:text=The%20revision%20of%20the%20french%20Patent%20Law&text=The%20duration%20of%20French%20utility,utility%20certificates%20not%20yet%20expired. (Last visited 13th October 2023)

[210] World Intellectual Property Organization IP Facts and Figure, 2015, *available at:* https://www.wipo.int/edocs/pubdocs/en/wipo_pub_943_2015.pdf. (Last visited 13th October 2023)

[211]German Utility Model, *available at:* https://www.dpma.de/english/utility_models/index.html. (Last visited 13th October 2023)

[212]Petty Patents around the World, *available at:* https://www.obwbip.com/newsletter/petty-patents-around-the-world#:~:text=The%20substantive%20requirements%20are%20novelty%2C%20inventive%20step%20and%20industrial%20application. (Last visited 13th October 2023)

[213]Utility Model Protection in Germany, *available at:* https://media.bardehle.com/contentdocuments/broschures/Utility-Model-Protection-in-Germany_BARDEHLE_PAGENBERG_IP-brochure.pdf. (Last visited 13th October 2023)

[214]German Utility Model Law, 2017, s.5.

VI. Italy

According to the WIPO, about 3,000 direct applications were submitted in Italy in 2015, making it the second-highest filing nation in Europe. Italy's legal system clearly distinguishes between utility models and patents. Utility models are intended to protect "new models" (in the sense of structures or forms) "suitable to provide machines or parts thereof, tools or objects with a particular effectiveness, usefulness or ease of application",[215] whereas inventions are only protected by patents under Italian law. Since this distinction is not often clear-cut in practice, inventions can also be protected by a utility model if they do not involve a technique or process, a chemical product, or an electronic circuit—all of which are not covered by utility model protection. Utility models are valid for ten years in Italy. They are not subject to examination, but they are nonetheless enforceable—if their validity is not contested in an infringement action.

The three main criteria are industrial use, creative step, and uniqueness[216]. Utility model owners benefit greatly from the fact that the standard for creative step is typically lower than for patents. It is also possible to convert a patent into a utility model. The law expressly provides for the simultaneous protection of an innovation by a utility model and a patent. In contrast to Germany, utility model applications are not eligible for direct entrance into the PCT national phase in Italy due to the closure of its national route. As a result, in order to get protection at the national level, a PCT application must first be entered into the European regional phase[217].

NEED FOR UTILITY MODELS IN INDIA

Intellectual property rights may become strict to the point that the owner of the property becomes the only monopoly of discoveries or ideas rather than "inventions"[218]. What would happen to future generations of innovators who would need to use these fundamental building blocks for more inventive endeavors if we let every idea or discovery to be completely protected under intellectual property rights?

They would either need to pay for licensing or other transaction charges in order to get

[215]Italian Utility Model, *available at :* https://www.sib.it/en/patents/inventions-insights/utility-model/ (Last visited 13th October 2023)

[216]Italian Utility Model, *available at :* https://www.sib.it/en/patents/inventions-insights/utility-model/ (Last visited 13th October 2023)

[217]Italian PCT National Phase Entry, *available at:* https://www.ip-coster.com/IPGuides/pct-italy (Last visited 13th October 2023)

[218] Zia Qureshi, Intellectual property, not Intellectual Monopoly, 2018, *available at*: https://www.project-syndicate.org/commentary/intellectual-property-regime-tends-toward-monopoly-by-zia-qureshi-2018-07 (Last visited 29th February, 2023)

authorization to use these building blocks, or they may try to get around the issue by trying to hide any appropriation of such blocks, which could result in the expense of legal action. Working around the protected building blocks would be the last resort, requiring expensive study methods. There would be negative consequences if the cost of inventing anything new went up[219].

Any advantages to society and financial gains from a patent regime would be lost if the structure of patent protection necessitated the sacrifice of limited resources. These same considerations serve as the foundation for the need under patent law of a high degree of innovation in order to prevent the protection of conventional, obvious, or just workshop discoveries. Therefore, too restrictive laws like the functional Indian Patent Laws, will discourage future artists or innovators. Certain fundamental components of creativity must remain in the public domain.

Free access to technical knowledge may promote the development of technology more in nations with low levels of creative activity, rather than strong proprietary rights over that information. Rather than attempting to promote local innovation by granting everyone broad legal rights, it may be more effective to require foreign technology holders to transfer their innovations on benevolent conditions in order to increase technical capacity[220]. This means that until their economies are more developed, emerging nations should exercise caution while developing their IP rights.

Utility model systems are said to be extremely helpful for SMEs, especially in developing nations like India. For starters, it is quite probable that SMEs are well-represented in fields where unfair copying is common and cumulative innovation is the norm[221]. In fact, it is frequently suggested that SMEs, particularly those involved in an ongoing process of invention and adaptation, would benefit from a quick and inexpensive second tier patent regime. This is especially true for some product categories where incremental or improved innovation is more important than ground-breaking technological advancements. For instance, the need for a quick and affordable regulatory framework to safeguard small breakthroughs in the following fields: optics, micro-technology, micromechanics, clock and watchmaking, and toy production is one of the driving forces behind the drafted European Commission Directive[222].

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[219] Vijay Govindarajan, The Gap between Large and Small Companies is growing. Why? 2019, *available at:* https://hbr.org/2019/08/the-gap-between-large-and-small-companies-is-growing-why (Last visited on 29th February, 2024 at 4:30 p.m.)

[220] Aqib Aslam, Globalization helps spread Knowledge and Technology Across Borders, 2018, *available at:* https://www.imf.org/en/Blogs/Articles/2018/04/09/globalization-helps-spread-knowledge-and-technology-across-borders (Last visited on 29th February, 2024 at 8:30 p.m.)

[221] Government of India, Research and Development Statistics (Ministry of Science and Technology, 2020), *available at:* https://dst.gov.in/sites/default/files/Research%20and%20Deveopment%20Statistics%202019-20_0.pdf (Last visited on 29th February, 2024 at 4:30 p.m.)

[222] Utility Models – European Commission, *available at:* https://single-market-economy.ec.europa.eu/industry/strategy/intellectual-property/patent-protection-eu/utility-models_en (Last visited 29th February, 2024)

For a second reason, it is possible that SMEs produce more breakthrough and incremental discoveries than big international enterprises[223]. If this is the case, it's critical to assess how well the present patent system serves the requirements of SMEs and the kinds of ideas they generate. Many ideas that come from SMEs are less imaginative than those that come from larger companies, making them easy targets for rivals to take advantage of. Utility models may therefore be very pro-innovation and advantageous to the Indian economy.

Utility models might also benefit small and medium-sized enterprises (SMEs) because the expense of utilizing the patent system could prevent them from using it as often as they would want. Because the second-tier patent regime is designed with small and medium-sized enterprises (SMEs) in mind, including financial considerations, it is thought to be the best option.

With the existing patent laws in the country, which are very strict, the SME industries lose out on accessibility to resources required to inspire innovation due relatively less amount of investment in it. Also, they cannot employ attorneys who are thorough with the complexities of IP laws nor do they are considerable sum of money to invest into acquisition of patents. Besides, innovation or existing processes and such likes of rediscovery is not supported by current legislations due to extremely large set of requirements, each of which must be fulfilled by the applicant. Thus, a second-tier patent regime like Utility Models or Petty Patents is the need of the hour in India.

CONCLUSION

Utility models should be taken into consideration as an additional option to protect innovations in certain markets, especially for products with a short commercial lifetime, as their registration process may be considerably faster, easier, and less expensive than the patent grant procedure. Apart from a speedy registration process, another benefit in India might be that the level of innovation needed is lower than that of non-obviousness or inventive step needed for a typical patent. Therefore, utility models can be utilized as an alternative to patents in the event of incremental inventions or improvements that are not eligible for patent protection. Additionally, utility models created from patent applications could offer a quickly acquired legal defense against rivals' “copycat” goods.

[223] Sarah Iqbal, Why are small businesses more Innovative? 2022, *available at:* https://www.myhrtoolkit.com/blog/why-are-small-businesses-more-innovative (Last visited 29th February, 2024)

I P BULLETIN

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THE CONUNDRUM OF RECOGNIZING ARTIFICIAL INTELLIGENCE AS AN INVENTOR VIS-À-VIS INTERNATIONAL PATENT REGULATIONS

- *Aryan Raj*[224]

ABSTRACT

Machines now perform tasks without the need for human intervention, taking over jobs that humans once held in the workforce. Artificial intelligence (AI) has a significant impact on many different industries. The DABUS Case, which posed a fundamental challenge to the accepted paradigm of granting patent rights, one that previously recognized only humans (or, in some jurisdictions, government entities) as legitimate inventors, served as a notable example of this transformation in the area of intellectual property rights.

The fascinating issue of "whether Artificial Intelligence (AI) can be acknowledged as an inventor in accordance with both Indian Patent Regulations and more general international patent regimes" is explored in this article. The article examines the decisions made by authorities in several nations on Dr. Thaler's patent application. The curious situation in Australia, where the early recognition of DABUS as the inventor was later reversed, is also examined. The article also closely examines the South African case where DABUS's ideas received patent protection.

Keywords – Artificial Intelligence, DABUS, Patent Rights, Inventor, Human.

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INTRODUCTION

The DABUS event makes us ponder if an Artificial Intelligence (AI) can be acknowledged as the inventor in accordance with Indian Patent Regulations or any other international patent regime.[225] *"The Device for the Autonomous Bootstrapping of Unified Sentience",* or DABUS, is a piece of Artificial Intelligence (AI) credited to Dr. Stephen L. Thaler.[226] By acting as a "creative machine," DABUS has the capability to produce novel ideas on its own without the need for human input.[227] Dr. Thaler claims that DABUS independently came up with the patent's subject matter. He claims that DABUS is the creator of two patentable inventions: a food container with fractal geometry that allows for quick reheating and a flashing beacon intended to draw attention in an emergency.[228]

Dr. Thaler filed the patent application in several countries like the USA, India, Australia, the European Patent Office, South Africa, Canada, etc. and almost all countries responded in a similar way by rejecting Dr. Thaler's application for providing a patent to two inventions invented by an Artificial Intelligence device DABUS without the help of the any Human Input.[229] Although in Australia DABUS got partial success, at first the Australian Federal Court[230] ruled that DABUS may be designated as *'Inventor'* after determining that the term *"Inventor"* as used in the Australia Patent Act is not solely limited to the living person. The Federal Court of Australia's entire bench, in contrast, overturned its judgment by declaring that, in accordance with the Australian Patent Regulations, only a human can be an inventor.[231] Notably, however, in 2021, the South African Patent Authority, 'Companies and Intellectual Property Commission of South Africa," or CIPC,

[225] Jackie O'Brien & Isobel Taylor, *The year that was for DABUS, the world's first AI 'inventor'*, Inside Tech Law (December 13, 2021), https://www.insidetechlaw.com/blog/the-year-that-was-for-dabus-the-worlds-first-ai-inventor (Last Visited on Oct 10, 2023).

[226] Dr. Athira P. S., *Protection of Artificial intelligence originated inventions: the DABUS/thaler effect*, RFMLR RGNUL (May 30, 2022), https://www.rfmlr.com/post/protection-of-artificial-intelligence-originated-inventions-the-dabus-thaler-effect (Last Visited on Oct 10, 2023).

[227] Ibid.

[228] Ryan Abbott, The Artificial Inventor Project, WIPO Magazine (December 2019), https://www.wipo.int/wipo_magazine/en/2019/06/article_0002.html (Last Visited on Oct 10, 2023).

[229] Kingsley Egbuonu, The latest news on the DABUS patent case, IP Stars (July 11, 2023), https://www.ipstars.com/NewsAndAnalysis/The-latest-news-on-the-DABUS-patent-case/Index/7366 (Last Visited on Oct 10, 2023).

[230] Thaler v Commissioner of Patents [2021] FCA 879.

[231] Matthew Horton & Austin J. Kim, Australia Appeal Decision Reverses Direction on AI Inventorship, Foley & Lardner LLP (18 April 2022), https://www.foley.com/en/insights/publications/2022/04/australia-appeal-decision-reverses-ai-inventorship (Last Visited on Oct 10, 2023).

became the first patent office to ever award a patent to an artificial intelligence (AI) inventor instead of a human.[232]

This article examines the patent systems of India, the USA, the UK, Australia, South Africa, and the European Patent Convention (EPC) in-depth with a focus on evaluating the potential acceptance of Artificial Intelligence as the designated inventor within their respective frameworks. The author also analyses the judgments handed down by authorities in several nations in relation to Dr. Thaler's patent application. The article also looks into the curious case of Australia, where the initial recognition of DABUS as the inventor was later overturned. The author also closely examines the South African case where patents were given to DABUS for its inventions. The author concludes by assessing the positions taken by these various authorities and taking into account how their uses of the term "inventor" raise questions.

PATENT REGIMES OF COUNTRIES AND THE POSSIBILITY OF ACCEPTANCE OF ARTIFICIAL INTELLIGENCE AS AN 'INVENTOR'

I. India

The requirements of a person who is qualified to submit a patent application are described in Section 6 of the Indian Patent Act.233 The requirement that the applicant be the 'True and first inventor' of the invention is emphasized in Section 6(1) (a).234 The definition of a true and first inventor under Section 2(1) (y) of the Indian Patent Act excludes both the person who first brought an invention into India and the person to whom the invention was first disclosed from outside of India.[235]

The government is also included under the definition of person under the Indian Patent Act, which means either of Living Person or the Government can file a Patent in India.[236] Therefore, to be acknowledged as an inventor in India, a person must be a natural person and a true and first inventor.[237]

[232] Christopher Mhangwane & David Cochrane, South Africa was wrong to patent an AI's 'invention', Tech Central (December 8, 2022), https://techcentral.co.za/south-africa-was-wrong-to-patent-an-ais-invention/218389/ (Last Visited on Oct 10, 2023).
[233] Indian Patent Act 1970, Section 6.
[234] Indian Patent Act 1970, Section 6(1)(a).
[235] Indian Patent Act 1970, Section 2(1)(y).
[236] Indian Patent Act 1970, Section 2(1)(s).
[237] Renu Bala Rampal And Swaraj Singh Raghuwanshi, Demystifying Rights Of AI Generated Inventions, LiveLaw (15 Apr 2023), https://www.livelaw.in/law-firms/law-firm-articles-/ai-generated-inventions-chatgpt indian-patent-actdabus-united-states-patent-trademark-office-european-patent-office-226394 (Last Visited on Oct 10, 2023).

In the First Examination Report (when someone files a patent application in India,[238] the examiner prepares the First Examination report of the patent application) the Controller mentioned explicitly that the patent application cannot be processed for the *'Formal and Technical Examination'* because the true and first inventor of the invention is Artificial Intelligence (AI) which is not a Person as per section 2[239] and section 6[240] of The Patent Act 1970.

II. USA

In the USA, Patents are not always available for all inventions; rather, an inventor must fulfill a number of requirements in order to receive a patent. Numerous legal requirements must be satisfied, including innovation,[241] utility and eligibility,[242] non-obviousness,[243] and written description,[244] among others.

The notion that an invention must be the outcome of a "mental act," as well as the necessity that inventors be "individuals,[245]" are the two most crucial factors in any patentability analysis of creations by AI.[246] These limitations go against acknowledging AI as an inventor under the USA's Patent Framework. These criteria have been interpreted by courts which requires that an inventor be a real person, disqualifying companies, and computers from being recognized as inventors.[247]

In addition, a patent's subject matter must be "non-obvious."[248] This stipulation appears to be designed in the USA Patent framework to ensure that patentable inventions are the result of mental processes, and that human mental action was involved in the invention's development.[249] These minimum requirements are ultimately intended to make sure that the patent system encourages and rewards inventiveness. This requirements further incorporates the US patent law's scepticism on recognizing AI to be inventors.

[238] Intellectual Property India, https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 4) , (Last Visited on Oct 10, 2023).
[239] Supra note 11 & 12 at 2.
[240] Supra note 9 & 10 at 2.
[241] Patent Act (Title 35 USA State Code) § 102.
[242] Patent Act (Title 35 USA State Code) § 101.
[243] Patent Act (Title 35 USA State Code) § 103.
[244] Patent Act (Title 35 USA State Code) § 112.
[245] Patent Act (Title 35 USA State Code) § 100(f).
[246] Townsend v. Smith, 36 F.2d 292, 295, 4 USPQ 269, 271 (CCPA 1929).
[247] Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993)).
[248] Supra note 19 at 3.
[249] Ibid.

III. United Kingdom

Anybody may file a patent application in the UK, either alone or jointly, according to Section 7 of the UK Patent Act 1977,[250] however, what comes under the definition of *'Person'* has been given by England's Judiciary. According to the ruling in Yeda Research and Development Company Ltd. v. Rhone-Poulenc Rorer International Holdings, section 7 of the statute provides a comprehensive framework for determining who is entitled to receive a patent grant. Consequently, it is evident that only a Natural Person can be considered eligible under section 7(2).[251]

IV. Australia

According to Section 15, a patent may only be given to someone who is one of the following: *"(a) is the inventor; (b) would, on the grant of a patent for the invention, be entitled to have the patent assigned to the person; (c) derives title to the invention from the inventor or a person mentioned in paragraph (b); or (d) is the legal representative of a deceased person mentioned in paragraph (a), (b), or (c)".*[252]

Australian Federal Court while discussing the DABUS Case held that 'Only a natural person can be an inventor for the purposes of the Patents Act, taking into account the statutory language, structure, and history of the Patents Act as well as the policy objectives supporting the legislative intent'.[253]

V. South Africa

The term "inventor" is not defined explicitly in the South African Patents Act 1978.254 However, it is possible to assume from the Act and common law that the term "inventor" refers to a person who has an idea that the Act considers to be an invention. According to Section 2 (XV) of the act, a "patentee" is a person whose name is currently included in the register as the grantee or patent owner.[255] As a result, anyone who develops an idea that is original, novel, and suitable for use in commerce, industry, or agriculture may be deemed an innovator.[256]

[250] Patent Act 1977, Section 7(1).
[251] Patent Act 1977, Section 7(2).
[252] Patent Act 1990, Section 15.
[253] Commissioner of Patents v Thaler [2022] FCAFC 62.
[254] Hennie Louw & Erik van der Vyver, What? Who? Why? The Inventor Edition, Von Seidels (Oct 2021), https://www.vonseidels.com/news/inventorship/ (Last Visited on Oct 10, 2023).
[255] South African Patents Act No. 57 of 1978, Section 2 (XV).
[256] South African Patents Act No. 57 of 1978, Section 25(1).

VI. European Patent Office (EPO)

Article 52 of the European Patent Convention mentions 'Patentable Inventions' it says any invention, in any technological field, may be eligible for a European patent as long as it is novel, creative, and capable of being used commercially.[257] By this Artificial Intelligence (AI) Innovations can be considered for Patent as an innovation made by an Artificial Intelligence (AI) can be novel, creative, and capable of being used commercially.

Whether an AI entity can have the same legal standing as a person under the European Patent Convention (EPC) is still up for interpretation. The European Patent Office's ("Legal Board of Appeal") decision on the DABUS patent application concluded that DABUS had not complied with this condition.[258] This conclusion results from the fact that, as stated in Article 81 and[259] Rule 19(1) of the EPC,[260] a patent applicant is required to identify the inventor as part of their procedural obligations. An applicant is required by Article 81 of the EPC to identify an "inventor."[261] An inventor must be a "natural person," according to the Board's interpretation.

Legal Board of Appeal observed that the European Patent Convention (EPC) does not contain any language that would lead one to believe that the term "person" includes artificial intelligence.[262] The Board further emphasized that some EPC clauses that ordinarily relate to an "inventor" concurrently refer to a "person" or "legal predecessor."[263] The EPC's Article 60(1) also grants the inventor patent rights. The Board came to the conclusion that having legal capacity is a requirement of the EPC which only a Living Person can possess.[264]

[257] European Patent Convention, Article 52.
[258] Ryan N. Phelan, Inventor of an AI-Generated Invention, Marshall, Gerstein & Borun LLP (July 26, 2022), https://www.patentnext.com/2022/07/european-patent-office-epo-suggests-that-the-owner-of-an-artificial-intelligence-ai-machine-could-be-listed-as-the-inventor-of-an-ai-generated-invention/ (Last Visited on Oct 10, 2023).
[259] European Patent Convention, Article 81.
[260] Convention on the Grant of European Patents (1973), Rule 19(1).
[261] Supra note 36 at 5.
[262] Supra note 35 t 5.
[263] Ibid.
[264] European Patent Convention, Article 60(1).

ANALYSIS OF DECISIONS GIVEN BY THE INDIAN PATENT AUTHORITIES AND OTHERS WITH RESPECT TO RECOGNIZING ARTIFICIAL INTELLIGENCE AS 'INVENTOR'

I. India

Since DABUS is not recognized as a 'Person' under Sections 2 and[265] 6 of the Patents Act, 1970,[266] Thaler's Indian patent application was the subject of objections from the Controller General of Patents in India, who claimed in the scrutiny Report that the application could not pass Formal and Technical Examination.[267] Numerous court decisions upheld the Controller General of Patents' decision. For instance, in the case of V.B. Mohammed Ibrahim v. Alfred Schafranek, the court decided that only a 'Natural Person' who genuinely contributes their skill or knowledge to the innovation is able to claim inventorship under the law, and that neither a financing partner nor a corporation could be the sole applicant as an inventor.[268] As a result, it is not viable to recognize AI as patent holders under India's current statutory framework.

II. USA

Dr. Thaler attempted to get patent protection for two of DABUS purported discoveries by filing two patent applications to the U.S. Patent and Trademark Office (PTO) and listing DABUS as the sole inventor on both of them. Rather than providing the last name of the inventor, Thaler wrote on the applications that "the invention was generated by artificial intelligence."[269] The U.S. Patent and Trademark Office (PTO) came to the conclusion that both applications were faulty because neither had a legitimate inventor.[270] Dr. Thaler requested judicial review of the PTO's rulings in district court. The U.S. Patent Act requires a "inventor" to be a "individual," and the obvious meaning of "individual" as used in the legislation is a natural person, the district court found, awarding the PTO summary judgment.[271]

Then, citing several US Patent Act clauses to support his position, Dr. Thaler tried to convince the US Court of Appeals for the Federal Circuit in the case of Thaler v. Vidal that "inventor" should include AI software.[272] First, Thaler draws attention to the word "whoever" in Section

[265] Supra note 11 & 12 at 2.
[266] Supra note 9 & 10 at 2.
[267] Supra note 14 at 3.
[268] V.B. Mohammed Ibrahim v. Alfred Schafranek (AIR 1960 Mysore 173).
[269] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 19) , (Last Visited on Oct 10, 2023).
[270] Ibid.
[271] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 21) , (Last Visited on Oct 10, 2023).
[272] Thaler v. Vidal, No. 2021-2347 (Fed. Cir. 2022).

103 of the US Patent Act, which states that "whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."[273] Second, Thaler argues that AI software programs must be considered as inventors in order for patentability to be independent of how the invention was developed, which would be against Section 103.[274] Thirdly, Thaler adds that the statute's overall context as well as the specific context in which the word "inventor" is employed must be taken into consideration when interpreting the phrase.[275]

Thus, the question on the table for the Federal Circuit in this instance was: Is it possible for someone other than a human to be the inventor of a U.S. patent? In its approach, the Federal Circuit relied on the legislative language of the U.S. Patent Act, which characterizes a 'inventor' of a patent as "the person... who invented or discovered the subject matter of the invention." That being said, the Federal Circuit pointed out that the Patent Act does not define "individual." The court concluded that an AI system is ineligible to be registered as an inventor under the U.S. Patent Mechanism.

III. United Kingdom

In compliance with sections 7 and 13 of the Act, the UK Intellectual Property Office (UKIPIO) denied Dr. Thaler's application on the grounds that DABUS was not a recognized person and, as such, could not be acknowledged as the inventor under UK patent law.[276] A patent may be granted to (a) the creator and (b) any individual who is the original owner of the "property in" the invention at the time of invention, under UK law found in Patents Act of 1977, section 7.[277]

In addition, the applicant must comply with Section 13 of the Patents Act, which requires them to: (i) identify the person or people thought to be the inventor(s), and (b) if they are not the inventor, explain how they obtained the right to be granted the patent.[278]

Further Dr. Thaler moved The UK Court of Appeal, Court of appeal in the case of Stephen

[273] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 23) , (Last Visited on Oct 10, 2023).
[274] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 25) , (Last Visited on Oct 10, 2023).
[275] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Page 26) , (Last Visited on Oct 10, 2023).
[276] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Para 7,Page 26) , (Last Visited on Oct 10, 2023).
[277] Supra note 26 at 4.
[278] Patent Act 1977, Section 13.

Thaler vs The Comptroller-General of Patents, Designs and Trademarks,[279] by a vote of 2-1, the Court dismissed Dr. Thaler's appeal and upheld the hearing officer's judgments, concluding that an AI system cannot be recognised as the inventor under UK patent mechanism.[280]

PARTIAL SUCCESS IN AUSTRALIA AND COMPLETE SUCCESS IN SOUTH AFRICA.

The Australian Patent Office's ruling that an "AI machine cannot be an inventor" was overturned by a primary judge of the Federal Court of Australia,[281] who also declared that an inventor was not required to be a natural person under Australia's patent system.[282] The decision of the court was challenged by the Commissioner of the Australian Patent Office. The appeal was then returned to the same court which delivered the earlier decision, where a Primary judge came to the opposite result,[283] holding that under Australian law, an inventor must be a 'Natural Person'. As a result, the primary judge's initial judgment was overturned.[284]

The Commissioner's justification and conclusion were rejected by the primary judge in the initial court case. The judge clarified that an inventor is an agent who creates something new; they might be either people or things.[285] Additionally, he concluded that nothing in the Patents Act foretells a different outcome. A distinction between patent ownership and inventorship was made by the judge. He disagreed with the idea that if there was no human inventor, an otherwise patentable invention would not be granted a patent. This would be contrary to the Patents Act's stated goal of "providing an Australian patent system that promotes economic wellbeing through technological innovation and the transfer and dissemination of technology." He added that acknowledging the invention of the computer will encourage the development of inventive machines and the application of machine output for novel scientific purposes. The judge ultimately concluded that the Commissioner's definition of "inventor" was no longer applicable.[286]

DABUS, an artificial intelligence (AI) inventor, did, however, receive its first patent success in

[279] Stephen Thaler vs The Comptroller-General of Patents, Designs and Trademarks, (Appeal No 2019 - 000339).
[280] Intellectual Property India, Reply to First Examination Report https://iprsearch.ipindia.gov.in/PatentSearch/PatentSearch/ViewPDF (Para 50, Page 51) , (Last Visited on Oct 10, 2023).
[281] Thaler v. Commissioner of Patents [2021] FCA 879' 160 IPR 72 (J) (Page 226 - 227).
[282] Ibid.
[283] Thaler v. Commissioner of Patents [2022] FCAFC 62.
[284] Thaler v. Commissioner of Patents [2022] FCAFC 62 (Para 123, Page 34).
[285] KIRK HARTUNG, DABUS Sent Back to Drawing Board Following Reversal of Inventorship Decision by Australia Court, IP Watchdog (APRIL 17, 2022), https://ipwatchdog.com/2022/04/17/dabus-sent-back-drawing-board-following-reversal-inventorship-decision-australia-court/id=148464/#:~:text=On%20April%2013%2C%202022%2C%20the,patent%20application%20under%20Australian%20law. (Last Visited on Oct 10, 2023).

[286] Ibid.

South Africa, where the country's patent office granted the first patent for a DABUS innovation.[287] But because the nation lacks a framework for conducting substantive patent examinations, the importance of the acceptance could not be as great as it would be in another jurisdiction.[288] Although the South African Patents Act and related rules do not require the South African Companies and Intellectual Property Commission (CIPC) to conduct a substantive examination of a patent application, it is nevertheless required to ensure that formal requirements are met.

CONCLUSION

An in-depth analysis of the provisions relating to the potential recognition of artificial intelligence as an "inventor" within the patent frameworks of different countries has revealed that the majority of these frameworks lack explicit definitions of what constitutes an inventor. Notably, even "Government" institutions fall within the purview of the concept of a "Living Person" in countries like India. Furthermore, DABUS has continually been refused patent rights by patent authorities from almost every jurisdiction, citing precedence from the solely human inventors who were granted patents. When dealing with an innovation that required a lot of thought and research in its production, this fidelity to legislative purpose may be deemed inappropriate. Therefore, it is advised that regulatory bodies take a more thorough and all-encompassing approach when making decisions on denying DABUS patent rights.

In the words of Abraham Lincoln, "The patent system adds the fuel of interest to the fire of genius." This effectively illustrates how the patent system is set up to encourage people to develop and make their inventions known to the public. In order to accomplish this, it rewards innovators who publicly disclose their creations with a time of exclusivity for their ideas. Instead of not inventing or inventing but keeping their inventions a secret (in which case they may still earn from private sales and licenses), it is hoped that the monetary motive will encourage innovators to disclose their inventions to the public. This agreement promotes additional innovation and increases public knowledge of science and technology.

The fact that AI is not a person and thus does not respond to the incentives of the patent system is a fundamental issue with identifying AI as an inventor. An AI system doesn't have needs, wants, or desires. If it understands it can be named on a patent, it won't choose not to invent, work harder, or choose to reveal its inventions to the public (rather than keep them hidden), and it won't be demotivated if its name doesn't appear on a patent.

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[287] Christopher Mhangwane and David Cochrane, South Africa was wrong to patent an AI's 'invention', TECH CENTRAL, (8 December 2022), https://techcentral.co.za/south-africa-was-wrong-to-patent-an-ais-invention/218389/,(Last Visited on Oct 10, 2023).
[288] Ibid.

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INTELLECTUAL PROPERTY RIGHTS AND HUMAN CAPITAL DEVELOPMENT

-Dr. Raghuvir Singh [289]

ABSTRACT

This chapter discusses the human development approach to intellectual property (IP). The innovation literature suggests that the protection of intellectual property rights (IPR) is a key determinant of innovation. Recent studies suggest that IPR protection encourages innovation only under certain conditions. In this paper, we consider that IPRs have a positive effect on technological innovation only in countries with high levels of human capital. The purpose of this study is to examine the relationship between intellectual property rights, human capital and technological innovation in the context of emerging and developing countries. To measure innovation, we use the number of patents granted to inventors in a country by the United States Patent and Trademark Office. The IPR variable is the Ginart and Park index, while the stock of human capital is measured by the percentage of total enrollment among the school-aged population over 15 years at the tertiary level. Panel threshold regression is applied to data from 46 developing countries for the period 1980–2009. The estimation results provide evidence for the existence of a non-linear relationship between intellectual property rights and innovation depending on the initial level of human capital. This study examines the single and combined effects of intellectual property rights (IPR) and human capital on types of entrepreneurship in emerging and developing countries. For this purpose, we use the Global Entrepreneurship Monitor data for entrepreneurial activity, while IPR is assessed based on the World Economic Forum's IPR index and human capital is measured by the gross enrollment ratio for secondary school. Linear regression is applied to the data for 15 countries during the period 2009–2013. The findings suggest that reforming intellectual property rights has no effect on opportunity-driven entrepreneurship and negatively affects need-driven entrepreneurship. Furthermore,

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improving education levels allows for increased opportunity-driven entrepreneurship in emerging and developing countries. However, this need does not allow entrepreneurship to flourish. Furthermore, countries with high human capital levels benefit more from the growth of the IPR system than countries with low human capital. In sum, our study recognizes the complementary role of intellectual property rights and human capital in enhancing high-quality entrepreneurship. We conclude that both intellectual property rights and human capital are effective tools of industrial policy in emerging and developing countries.

The present paper focuses on institutional barriers to development and their effects on individuals' decision to enter entrepreneurship. Thus, our study aims to shed some light on how human capital, especially institutional framework, intellectual property rights and the interaction between these two aspects affect different types of entrepreneurship and secondary new domestic product. Conducts a survey to identify product-based and foreign-imported entrepreneurs and examines the implications of the two types of entrepreneurial opportunities for the relationship between intellectual property rights, human capital, and opportunity-driven entrepreneurship.

Keywords - Intellectual Property Rights, Innovation Non-Linear Relationship, Opportunity Driven and Necessity Driven Entrepreneurship, Human Capital, Emerging Developing Countries.

INTRODUCTION

In today's knowledge-based economy, intellectual property plays an important role in fostering innovation, driving economic growth, and protecting the rights of individuals. Intellectual property rights (IPRs) serve as a framework that protects and encourages creators and innovators, while human capital serves as the driving force behind the development and use of these rights.

Intellectual property is an intangible asset derived from human creativity and includes inventions, literary and artistic works, industrial designs, trademarks, and trade secrets. By providing exclusive rights to the creators and owners of these intangible assets, intellectual property rights encourage innovation and creativity. These rights allow individuals and businesses to monetize and commercialize their creations, giving them a financial incentive to continue producing new ideas, products, and services.

Human capital, on the other hand, refers to the collective knowledge, skills, and abilities possessed by individuals in a society. It represents a reservoir of competencies and capabilities that can be utilized and developed to contribute to economic productivity and growth. Human capital is essential in the creation, application, and protection of intellectual property rights. It is the knowledge and skills of individuals that drive the development of innovative ideas and

technologies, converting them into valuable intellectual property.

The relationship between intellectual property rights and human capital is symbiotic. On the one hand, intellectual property rights protect and reward human capital, ensuring that creators and innovators are rewarded for their efforts. It provides incentives for individuals to invest time, effort and resources in research, development and innovation. Without the protection of intellectual property rights, individuals may be discouraged from engaging in creative endeavors because of the risk of their creations being appropriated or exploited by others.

Intellectual property rights play an important role in attracting and retaining human capital. Countries that have strong intellectual property protection regimes attract investment and highly skilled individuals, promoting innovation and economic growth. Strong intellectual property rights provide a favorable environment for research and development activities, encourage businesses to invest in new technologies, and increase demand for skilled workers.

It is necessary to strike the right balance between intellectual property rights and human capital. Excessive protection or overly restrictive intellectual property regimes can stifle competition, hinder innovation, and limit access to knowledge. Striking the right balance involves ensuring that intellectual property rights are enforced while allowing the free flow of information, knowledge sharing and collaboration, which are fundamental to human capital development.

HISTORICAL BACKGROUND

The idea of human capital dates back to the 18th century. Adam Smith referred to this concept in his book “An Inquiry into the Nature and Causes of the Wealth of Nations” in which he explored the wealth, knowledge, training, talents, and experiences of a nation. Adams suggested that improving human capital through training and education leads to more profitable enterprise, which adds to society's collective wealth. According to Smith, this makes it a win-win for everyone.[290]

In modern times, the term was used to describe the labor required to produce manufactured goods. But the most modern theory was used by several different economists, including Gary Becker and Theodore Schultz, who invented the term in the 1960s to reflect the value of human capabilities. Schultz believed that human capital was just as capable of improving the quality and level of production as any other form of capital. This will require investment in the education, training and increased benefits of the organization's employees.[291]

The term "human capital" was not widely used until the 20th century, when economists such as

[290] World Bank. "Building Human Capital." Citated from- https://www.investopedia.com/terms/h/humancapital.asp

[291] Schultz, Theodore W. "Investment in Human Capital." The American Economic Review, vol. 51, no. 1, 1961, pp. 1-17.

Arthur, Cécile, Pigou, Gary Becker, Jacob Mincer, and Theodore Schultz developed and popularized it in their works and the concept of human capital. Applicable to a variety of subjects such as education, training, health, migration, labor market, income distribution and economic development. He also developed methods for measuring and analyzing human capital and its returns.

Today, human capital is considered one of the most important factors for economic and social progress. Many organizations and institutions invest in human capital development through various policies and programs, such as education, health care, social security, innovation, and entrepreneurship. The World Economic Forum publishes an annual Human Capital Report that ranks countries based on their human capital potential and performance. The report aims to provide a comprehensive framework for measuring and enhancing human capital around the world.

INTELLECTUAL PROPERTY RIGHTS

Intellectual Property can be defined as inventions of the mind, innovations, literary and artistic work, symbols, names and images used in commerce. The objective of intellectual property protection is to encourage the creativity of the human mind for the benefit of all and to ensure that the benefits arising from exploiting a creation benefit the creator. This will encourage creative activity and give investors a reasonable return on their investment in research and development.

The development of any society directly depends on the intellectual property rights and its policy framework. Lack of intellectual property rights awareness results in death of inventions, high risk of infringement, economic loss and collapse of intellectual era in the country.

The rights granted to individuals in the context of their intellectual creation are called intellectual property rights. In fact, it is understood that if a person does any kind of intellectual creation (such as creation of a literary work, research, invention etc.), then first of all that person should have exclusive rights over it. Since this right is given only for intellectual creation, it is called intellectual property right.

According to Article 2 of the WIPO (World Intellectual Property Organization) – Central organizations for the protection of Intellectual Property Laws and the expert organization of the UN, “Intellectual Property shall include the rights relating to literary, artistic and scientific works, inventions in all fields of human endeavor, scientific discoveries, industrial designs, trademarks, service marks and commercial names and designations, protection against unfair competition, and all the other rights resulting from intellectual activity in the industrial, scientific, literary or scientific fields”

Intellectual property refers to morally and commercially valuable intellectual creation. Granting

of intellectual property rights should not be taken to mean that only and only its creator will have the right forever and ever. It is necessary to mention here that intellectual property rights are given in view of a fixed time period and a fixed geographical area. The basic purpose of granting intellectual property rights is to encourage human intellectual creativity. Due to the wide scope of intellectual property rights, it was considered necessary to make arrangements for its relevant rights and related rules etc. for the particular sector.

INTELLECTUAL PROPERTY RIGHTS SYSTEM IN INDIA

India's intellectual property rights system has its origins in the British colonial rule, when the state, as a colony, created various regulations and enforcement mechanisms relating to intellectual property rights. After independence, India retained elements of these structures while updating some guiding rules and other bureaucratic structures. As India moved towards liberalization, privatization and globalization in the 1990s and onwards, Indian policy makers made further adjustments to meet the growing needs of domestic and international stakeholders. Indian IPR laws are fully compliant with the Convention on Trade Related Aspects of Intellectual Property Rights under the aegis of WTO.

NEED OF INTELLECTUAL PROPERTY RIGHTS

I. **Encourages Innovation:** Legal protection of new creations encourages the commitment of additional resources to further innovation.
II. **Economic Development:** The promotion and protection of intellectual property promotes economic growth, creates new jobs and industries, and enhances the quality and enjoyment of life.
III. **Protect the rights of creators:** IPR is needed to protect creators and other producers of their intellectual goods, goods and services by providing certain time-limited rights to control the use of the created goods.
IV. **Ease of doing business:** It promotes innovation and creativity and ensures ease of doing business.
V. **Transfer of Technology:** It facilitates transfer of technology in the form of foreign direct investment, joint ventures and licensing.

INTELLECTUAL PROPERTY RIGHTS POLICY

The Intellectual Property Rights Policy adopted in May 2016 is a giant leap by the Government of India to foster creativity and encourage innovation. It presents a roadmap for the future of intellectual property rights in India. The policy seeks to strengthen the Intellectual Property Rights framework in the country, create awareness about the economic, social and cultural benefits of Intellectual Property Rights among all sections of the society, encourage production and commercialization of Intellectual Property Rights , will promote service-oriented intellectualism. Modernize and strengthen the judicial system to deal with property administration IPR violations. The policy states seven objectives which have been elaborated along with the steps to be taken by the identified nodal ministry/department. The objectives of the policy are:

I. **Intellectual Property Rights Awareness:** Outreach and Publicity - To create public awareness about the economic, social and cultural benefits of IPR among all sections.

II. **Creation of Intellectual Property Rights** - To encourage creation of IPR: India has a large pool of scientific and technological talent spread across R&D institutes, enterprises, universities and technical institutions. There is a need to harness this fertile knowledge resource and encourage creation of IP assets.

III. **Legal and Legislative Framework** - Creating strong and effective IPR laws, which balance the interests of rights owners with the larger public interest.

IV. **Administration and Management** - To modernize and strengthen service oriented IPR administration.

V. **Commercialization of Intellectual Property Rights** - Get the value of IPR through commercialization.

VI. **Enforcement and Adjudication** - Strengthening the enforcement and adjudication mechanism to deal with IPR infringement.

VII. **Human Capital Development**: To strengthen and expand human resources, institutions and capacities for teaching, training, research and skill building in IPR.

The current IPR policy aims to integrate IPR as a policy and strategic tool in national development plans. This emphasizes the need for a coordinated and integrated development of the IP system in India and a holistic approach to IP legal, administrative, institutional and enforcement related matters.

HUMAN CAPITAL

"Human capital represents two-thirds of the assets for the average person – and work experience contributes about half of that value."

-G. M. Meier

The term human capital refers to the economic value of a worker's experience and skills. Human capital includes assets such as education, training, intelligence, skills, health, and other things that employers value such as loyalty and punctuality. As such, it is an intangible asset or quality that is not (and cannot be) listed on a company's balance sheet. Human capital is believed to increase productivity and thus profitability. The more a company invests in its employees, the more likely it is to be productive and successful.

It is often said that an organization is only as good as the people it has from top to bottom, which is why human capital is so important to an organization. It is typically managed by an organization's human resources (HR) department, which oversees workforce acquisition, management, and optimization. Its other directions include workforce planning and strategy, recruiting, employee training and development, and reporting and analysis.

The concept of human capital recognizes that not all labor is equal. But employers can improve the quality of that capital by investing in employees. This can be done through the education, experience and abilities of the employees. All of these have huge economic value to employers and the economy as a whole. Human capital is a concept used by economists to specify individual characteristics considered useful in the production process. This includes employee knowledge, skills, information, good health and education.[292]

Human capital has a substantial effect on personal income. Research indicates that human capital investment has high economic returns during childhood and young adulthood.[293]

Thus human capital includes the knowledge, skills and health that people accumulate throughout their lives, helping them to realize their potential as productive members of society. We can end extreme poverty and create more inclusive societies by developing human capital.

HUMAN RESOURCES CAPITAL

Human capital, also known as human resource, is the backbone of any nation. These human resources mainly consist of students who gradually become accountants, engineers, doctors,

[292] Goldin, Claudia. "Human Capital" (PDF). *In Claude Diebolt; Michael Haupert (eds.). Handbook of Cliometrics. Citated from https://en.m.wikipedia.org/wiki/Human_capital*

[293] *Deming, David J. (2022).* "Four Facts about Human Capital". *Journal of Economic Perspectives.* ***36*** *(3): 75–102.* doi*:*10.1257/jep.36.3.75. ISSN 0895-3309. *Citated from https://en.m.wikipedia.org/wiki/Human_capital*

lawyers, businessmen or administrative officers. These students become human assets for the country on the basis of their efficiency and capability. Human capital formation aims at converting human resources into human assets.

Physical Capital: All the inputs like tools, machinery, gadgets required for the development and growth of physical assets like buildings, bridges, factories etc. are called physical capital.

Human Capital: The skills, educational qualifications, subject knowledge, abilities and expertise present in the human resources of a nation at a point of time are called human capital.

DIFFERENCE BETWEEN PHYSICAL AND HUMAN CAPITAL

- Physical Capital are tangible in nature and can be easily traded or sold in the open market like any other commodity whereas human capital is intangible in nature, created in the mind and body of the owner and not marketable in the market , Only the services related to it can be sold.
- Physical capital can be created through import from other areas but human capital can only be done through internal conscious moral formation.
- The benefits of physical capital are only for private individuals while the benefits of human capital are social and personal.
- Physical capital is fully transportable between countries but human capital cannot be transferred due to restrictions of culture and nationalities.

FORMATION OF HUMAN CAPITAL

"Human capital formation is the process of obtaining and increasing individuals who have the education and experience necessary for the economic and political development of a country"

-G. M. Meier

To further the process of recruiting and receiving candidates who are best suited for their skills, educational qualifications and professional experience, which is vital to the political and economic development of the country.

SOURCES OF HUMAN CAPITAL FORMATION[294]

The most important source of human capital formation is investment in education. There are many other sources such as on-the-job training, investment in health, information and migration are other sources of human capital formation which are as follows –

I. Expenditure on Education

The most effective way to increase the productive workforce in the country is by spending on

[294] https://www.toppr.com/guides/economics/human-capital-formation-in-india/sources-of-human-capital/

strengthening the education system. It is considered the best source of human capital formation. The motive of nation and individuals behind investing in education is –

- To increase future income.
- Creating manpower and inculcating their technical skills, which are suitable for improving labor productivity and thus leading to sustainable rapid economic growth.
- Controlling the population growth rate which can be done by reducing the birth rate. As a result, more resources are available per person.
- Education can be passed on to others, resulting in social benefit.

II. Health Investment

Another important source of human capital formation is health. An employee who is not well will certainly affect productivity. Health expenditure takes various forms, providing clean and safe drinking water, preventive and curative medicines, etc.

III. Migration

People migrate from their native place to another place to find better jobs to get advantage of location and earn higher wages. Migration from rural area to urban area is the most prominent. Rural areas do not have areas to provide good jobs, so people migrate, while technically qualified professionals migrate from one country to another.

IV. Investment on The Job Training

Many organizations provide on-the-job training to increase labor productivity. It is another source of human capital which sometimes proves very costly. Companies spend heavily on on-the-job training. This can take various forms, such as training under a skilled supervisor, off-campus training or in-house training.

V. Intellectual Property Rights and Human Capital

When intellectual property rights were included in WTO trade agreements, it primarily emphasized the notion of intellectual property rights as economic products. The 1994 Agreement on Trade-Related Aspects of Intellectual Property (the TRIPS Agreement) was the first international intellectual property rights agreement to harmonize minimum standards of intellectual property rights protection for all WTO member countries. Since the TRIPS Agreement, intellectual property rights have been treated as important trade-related economic assets, and increasingly, intellectual property rights are being treated as investments under bilateral investment treaties.[295]

When it comes to intellectual property rights, this particular concern for developing and least developed countries does not mean that human capital is irrelevant for industrialized societies.

[295] Cynthia M. Ho, Sovereignty Under Siege: Corporate Challenges to Domestic Intellectual Property Decisions, 30 BERKELEY TECH. L.J. 213, 219 (2015).

Human capital is relevant to all countries, but those classified as less developed have a greater need to ensure that their intellectual property rights policies promote human capital development. Several countries classified as least developed countries by the United Nations are located on the African continent. The African Union Science Technology and Innovation Strategy for Africa, for example, underlines the importance of achieving sustainable socio-economic development, reducing poverty, achieving food security, promoting public health and protecting the environment.[296] However, human development is not exclusively a developing country concern. For example, the most recent WTO dispute concerning intellectual property rights and human capital involved a challenge to the law in Australia, an industrialized country.[297] The case involved a conflict between Australian public policy designed to protect human health, which is a measure of human development, and cigarette manufacturers' interest in using their own trademarks.

HUMAN CAPITAL FOCUSED INTELLECTUAL PROPERTY

Although intellectual property rights may not be the most important factor in promoting human capital development, they – as the debate on access to medicines has shown – can have some impact. Beyond medicine and health, there are many potential areas of exploration where one could apply a human capital development lens to intellectual property analysis. This section discusses three examples: gender, technology and the corporation. For each example discussed, there may be a counterexample. The purpose of this chapter is not to provide a comprehensive analysis of human capital development-focused intellectual property, but to describe the framework and suggest some potential applications or areas for further research and exploration.

I. Gender

A human capital development framework for intellectual property rights can consider ways in which intellectual property rights can help promote gender equality. The relationship between gender and intellectual property has been explored in legal studies.[298] However, gender and intellectual property from a human development perspective may warrant further research and analysis. For example, several of the United Nations' Sustainable Development Goals ('SDGs') are relevant to this topic. These include the SDGs on eradicating poverty, achieving gender

[296] *Science, Technology and Innovation strategy for Africa 2024*, AFRICAN UNION 1, 6 (27 December 2014), https://au.int/en/documents/20141227.
[297] Australia—Certain Measures Concerning Trademarks, Geographical Indications and Other Plain Packaging Requirements Applicable to Tobacco Products and Packaging—Report of the Panels, WT/DS435/R/WTDS441/R WT DS458/R WT/DS467/R (28 June 2018).
[298] Ann Bartow, *Fair Use and the Fairer Sex: Gender, Feminism and Copyright Law*, 14 AM. U. J. GENDER, SOCIAL POL'Y & L. 551 (2006), UN SDGs, *supra* note 8, at 1, 5, 8, 9.

equality, driving economic growth and promoting innovation.

Women are often small business owners in developing and industrialized countries. In some African countries, such as Ghana, many women entrepreneurs sell their products in the market or on the side of the road. But they are usually not knowledgeable about how they can use intellectual property rights to their advantage. When consumers buy products from companies like Apple or Payless Shoes, they have certain expectations because these companies have developed their own brands. For example, if African 'market women' can use a trademark to effectively differentiate their goods or services from those of other enterprises, they can efficiently communicate information about their businesses to potential buyers, So that their brand can grow. From a human development perspective, trademarks, used strategically, can provide these women with the ability to expand their clientele and build their businesses. Women entrepreneurs contribute to the economy and create jobs. Furthermore, if all other factors are held constant, it is reasonable to expect that a society with a greater number of economically independent women will be one with fewer gender inequalities.

II. Technological innovation

One can also apply a human capital development lens to intellectual property, to consider whether intellectual property promotes human capital development by facilitating technological innovation. The relationship between human capital development and innovation in the field of medical research and development is quite evident because health care innovations can improve the quality of life of people, or even extend their lives. But, technologies that allow people to read books and other materials, technologies that facilitate the free creation and distribution of creative works, technologies that facilitate cross-border communication via video-chat, and technologies that make it easier for people to send money. For their relatives abroad, all of these can be seen as technologies that promote human capital development. Such technological innovations contribute to the development of human beings in various ways. These can be measured by objective factors, such as measures of income, as well as subjective factors, such as improved psychological well-being when families are able to keep in touch even when they are far apart. Arguably, any intellectual property – whether patents, trademarks, copyrights, or other forms of intellectual property that facilitate the creation and distribution of such technologies – can be viewed as IP that promotes human capital development.

III. Corporate social responsibility

The human capital approach can be used to analyze the intellectual property rights owed by corporations. When discussing intellectual property rights and human capital development, it is

important to acknowledge that corporations, although they are not creators, hold a significant portion of intellectual property. For example, corporations enjoy certain rights and can also protect their intellectual property rights interests under human rights law in Europe.[299] However, a corporation is not a human person, so a corporation does not thrive nor is human capital development a concept that supports corporate economic interests.

Ownership of intellectual property rights may be good for corporate profits, but the question is whether these corporate owned intellectual property rights are furthering human progress and development. For example, intellectual property protection can be vital to revenue generation in particular industries and can lead to job creation, which helps improve lives. Furthermore, for example, intellectual property rights can have a positive effect on corporate profits. However, one may ask what corporate profits means for the common citizen.

For example, if a pharmaceutical company experiences an increase in profits due to maintaining high drug prices on patented drugs, intellectual property rights will hinder access to drugs for those most in need. In this context, an increase in profitability may appear to be an indicator of success as patent protection enables the company to enjoy financial rewards, thereby encouraging further innovation. However, when viewed through the prism of human development, intellectual property rights are only partially effective. To the extent that patent rights encourage the company to engage in research and development of drugs that improve human health, or to the extent that trademarks and branding encourage the company to uphold its standards, any One could also say that intellectual property rights are helping to promote human capital development. On the other hand, if the intellectual property right enables the company to engage in activity that limits human progress by pricing the drug in a way that makes the drug largely inaccessible to those who need it, then it will be harmful to human capital development.

STATUS OF BHARAT ON IPR AND HUMAN CAPITAL

India has been ranked 42 out of 55 countries in the latest International Intellectual Property Index report. India enjoys a good position in terms of presence of global R&D companies as knowledge partners with Cornell University and INSEAD13 Confederation of Indian Industry and others far better than comparable groups of low- and upper-middle-income economies Is. India also outpaces most other middle-income economies on science and engineering graduates, gross capital formation, gross expenditure on research and development undertaken by business, on the input side; quality of scientific publications, GDP growth rate per employee, exports of high-tech and ICT services, exports of creative goods, high-tech manufacturing and IP receipts on the output

[299] Laurence R. Helfer, *Toward a Human Rights Framework for Intellectual Property*, 40 U.C. DAVIS L. REV. 971, 1015 (2007)

side.

PROBLEMS OF HUMAN CAPITAL FORMATION IN INDIA

The main problems of human capital formation in India are;

I. **Growing Population:** The increasing population in underdeveloped and developing countries like India adversely affects the nature of human capital. Hence, it reduces per capita availability of existing resources like sanitation, jobs, drainage, water purification system, city planning, hospitals, education centers, training centers, food supply, nutrition, roads, power, electricity etc.

II. **Brain Drain:** The exodus of highly talented workers is 'brain drain'. As a result, it proves to be a hindrance in the process of human capital formation in the country.

III. **Unqualified Manpower Planning:** There is immature labor planning in developing countries where no efforts have been made to raise the standard of training at various stages to keep up with the demand and supply of technical labour. It is a sad reflection of the waste of local power and local talent.

IV. **Long Term Process:** The process of human development is a long term approach as skill development requires some period of time. The process of generating talented labor is thus moderate. It also reduces our competitiveness in the global market for human capital.

V. **High Poverty Level:** A large proportion of the population lives below the poverty line and lacks access to basic well-being and education. Therefore, a large section of the society cannot afford to receive advanced education or costly health treatments for major diseases.

CONCLUSION

Intellectual property rights and human capital are integral to promoting innovation, economic growth and social development. The interaction between these two pillars promotes knowledge creation, facilitates technology transfer and encourages investment in human capital. However, the right balance has to be struck

In conclusion, intellectual property rights and human capital are intertwined in promoting innovation, economic growth and protecting the rights of individuals. Intellectual property rights provide the legal framework to protect and encourage creators, while human capital drives the creation, development and use of these rights. To advance society and economy in the knowledge-based era, it is necessary to promote a harmonious relationship between the two.

Merely promoting a conducive environment for IPR is not enough to attract investment. Promotion of IPR must be balanced with national interest and public health obligations. "Make in

India" should not compromise with "Atmanirbhar Bharat", and the latter should be given priority. Human capital refers to the economic value of a worker's abilities and skills. Companies can increase their human capital by recruiting or training as well as by implementing management techniques that optimize the productivity of their existing employees. Maintaining and improving the value of human capital is usually the responsibility of a company's human resources department.

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