

AN ANALYTICAL APPROACH: FUTURE HORIZONS FOR INTELLECTUAL PROPERTY RIGHTS IN THE AGE OF AI

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ABSTRACT

Artificial intelligence and its capabilities are today well known to all, expeditious developments in AI are revolutionizing nearly all sectors of our economy. AI systems have gone from assisting humans in producing content to generating content with no human interference. With such rapidly evolving technologies, the legal status and the laws governing these entities needs to be reviewed and reformed. Amidst all these developments, the legal status of Artificial intelligence as a creator still remains ambiguous. The increase in artistic works created by AI has given rise to a debate on whether IPR protection can be granted to the work generated by AI. This can have various benefits as well as ramifications, and a superficial view of such issues is not enough to understand the complexities behind it. The primary objective of this research paper

is to present an analytical view on this issue. The paper has holistically overviewed the current status and the evolution of AI and IPR in our country, respectively. Further, the paper will discuss the IP laws and their relevance in this Artificial intelligence era. The author holds the belief that the ambiguity that the current legal system holds on the question of authorship and ownership of AI generated work is not sustainable in the long term. It is imperative to understand the potential of AI in the near future without limiting it to a myopic vision based on the present capabilities of AI. Artificial intelligence is not new in our society, it is the new normal and needs to be recognised under the eyes of law. Throughout the paper, the author worked on this approach and presented an unbiased view.

Keywords: *Artificial intelligence, Intellectual property rights, artistic work, AI assistance, authorship, ownership.*

INTRODUCTION

"The development of full artificial intelligence could spell the end of the human race." This was stated by Stephen Hawking in 2014 in an interview with British Broadcasting Corporation (BBC) . The statement made by Stephen Hawking a decade ago in 2014 is the fear of many in 2024. Alan Turing, a British intellectual in 1950 first mentioned the idea of Artificial intelligence in the form of mimicking human responses. It is often perceived that the growth of AI could someday overtake humanity. Artificial intelligence has evolved over the years but its relevance to today's generation is largely limited to its superficial uses. This often leads to the underutilisation of AI's capabilities. Its significance has only increased in the current

technologically savvy world. AI has penetrated nearly all aspects of daily lives be it education, healthcare, entertainment, e-commerce, tourism, etc. No single definition of AI has been accepted by all practitioners. Though, in an effort to understand Artificial intelligence we can define it as computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems. Mr. John McCarthy, a computer scientist, formally coined the term 'artificial intelligence' in 1956. The aim of developing Artificial intelligence is to create such machines which are capable of thinking like humans and mimicking their actions. Artificial intelligence is a collection of technologies comprising of various fields of AI and it is often categorized into two categories:-

1. Strong AI, which is also known as artificial general intelligence, can work on problems it's never been trained to work on like the robots from the West world or the character Data from Star Trek: The Next Generation. This type of AI is currently non-existent
2. Weak AI is quite restricted in its approach and human intervention is a prerequisite, it can perform a single task with efficiency. Siri, Alexa, Google assistant are some examples.

Machine learning, deep learning, Natural language processing, Physical robots are some technologies which have developed over time and contributed to the growth of AI. In 1980 and 1990 s, AI research shifted to Machine learning and neural networks, which allowed machines to learn from data and improve their performance over time and it is the most commonly used form of AI, a survey conducted in 2018 by Deloitte comprising of 1,100 US managers

revealed that 63% of the organizations were employing Machine learning in their businesses. AI researchers have been working since 1950 with the goal to develop such technology that can understand and interpret human language, Natural language processing [NLP] and computer vision started to evolve in the 2000s and is equipped with understanding human language using tools such as speech recognition, text analysis and translation. statistical and semantic NLP are forms of it. This led to development of virtual assistants such as Siri, Alexa. the 1980s were dominated by Rule-based expert systems. Physical robots are quite popular today, more than 2,00,000 industrial robots are installed worldwide. They mostly perform strength driven manual tasks like lifting, repositioning, welding or assembling objects in factories and warehouses. While the impact of artificial intelligence on our daily lives has been quite evident, it still lacks the much-needed societal awareness. Few years back Artificial intelligence was used in the form of AI assistant tools, with the rising potential of Artificial intelligence, AI is now capable of generating content without human interference. This has given rise to a debate on IPR protection for AI generated content. This goes against the prevalent notion that authorship can be awarded only to human or natural persons. Intellectual property rights as defined by World intellectual property organization means “the creation of the mind, such as inventions, literary works, designs and symbols, names and images used in commerce.” IPR protects one's creativity and inventions and awards exclusive rights to the owner as an incentive for producing such creative work. This ensures that the authors are compensated for their efforts. WIPO and other national organizations give protection to the owner in the form of copyright, patent,

industrial design, trademark, related rights, geographical indications, unfair competition, trade secrets, new plant variety, traditional knowledge, traditional cultural expressions and genetic resources. Intellectual property rights are governed by various regulations such as - The trademarks act, 1999, The patents act, 1970 [amended in 2005], The copyrights act, 1957, The design act, 2000, The geographical indication of goods [registration and protection] act 1999, etc. IPR Policy 2016 is an initiative by the Government of India with the aim to encourage creativity and innovation. The policy aims to create awareness about intellectual property rights in India which will also help in combating IPR infringement.

REVIEW OF LITERATURE

Below are some literature reviews relevant to the research topic, which have been carefully selected to enhance the understanding of the scholar and provide a comprehensive explanation of the present study. While numerous works associated with this research study, the focus has been placed on the most pertinent ones in order to present a well-informed analysis.

June 2018: National Strategy for Artificial Intelligence (NITI Aayog)

1. In his budget address for 2018–19, the then-honourable finance minister, Shri Arun Jaitley, authorised the NITI Aayog to establish the National Programme on AI, acknowledging that India has a major stake in the AI revolution. India has the potential to take the lead on the global AI map, according to the NITI Aayog's June 2018 discussion paper, which was hash tagged

#AIforAll. In order to do this, NITI Aayog has devised a "three-pronged" plan, which includes working with a variety of experts and stakeholders, developing a national strategy for creating a thriving AI ecosystem in India, and launching experimental proof-of-concept AI initiatives in several fields. (Page number five)

2. The paper looks at five major areas that stand to gain the most from AI—healthcare, agriculture, education, smart cities and infrastructure, and smart mobility and transportation—it only makes a few sporadic references to intellectual property in this context. On page 8, it states that India will benefit from the AI innovation wave if it establishes a strong intellectual property regime.
3. Subsequently, on page 46, the report lists the major obstacles in India's "march towards leadership in AI" and calls India's intellectual property regime "unattractive" as one of the barriers to AI adoption and research; however, no studies or data regarding the IP system are cited to support this claim.
4. The report highlights that data and algorithms are essential components that guarantee the operational success of AI-powered applications. It emphasises the need for a strong intellectual property regime on page 60, stating that the way algorithms are designed and trained with large data sets presents challenges for the current IP regime in the context of generic computer programmes. The report suggests that feeding data to an AI algorithm during its training is the "key to success," but it is unclear how this suggestion can help address the aforementioned problem.

5. As a result, on page 91, it lists "intellectual property" as one of the areas in which government intervention is necessary and suggests forming a task force with the participation of the Ministry of Corporate Affairs and DIPP to review and issue necessary changes to the IP regulatory framework concerning artificial intelligence. On page 91, this is reiterated. This is also questionable, though, because ministries and agencies can only create committee findings or recommendations; only the legislature has the authority to change the legislation.

July 2019: Artificial Intelligence Committee Reports by Ministry of Electronics and Information Technology

In an attempt to develop a policy framework for AI, the Indian government established four committees under the Ministry of Electronics and Information Technology, with the goal of considering the potential effects of AI on society and the economy.

1. Committee A: The creation of the National AI Platform (NAIRP), an open data and knowledge-cum-innovation platform, was suggested. The paper mentioned that collaborations in "IP creation" would result from such a platform on page 4. It describes how different nations are utilising data and the intellectual property that goes along with it as a tactical advantage for world dominance.
2. Committee B: No mention of intellectual property is made in this study, which focuses on using AI to identify national missions in important industries like food, health, and agriculture.
3. Committee C: This report focuses on research and development, skilling and reskilling, essential policy enablers needed across

sectors, and mapping technology capabilities. As part of building a solid R&D base, intellectual property is mentioned (see page 13).

4. Committee D: This report addresses cyber security, safety, legal, and ethical issues. It begins on page 8 and states that open access to datasets, algorithms, and new tools facilitates sharing and collaboration among cyber defenders. However, it also warns that hackers may use this freely available open-source software for malicious purposes, and that they may even target entire states. For example, the report on page 9 explains that artificial intelligence (AI) attackers can create "Adversarial AI," which causes legitimate AI models to make mistakes. They can then use this information to launch attacks, influence malware, and contaminate data.

In order to strengthen the AI system, the paper emphasises predictability, trust, fairness, and openness; intellectual property concerns are not fully discussed in detail in this context. Due to its emphasis on knowledge and experience sharing across organisations and the future growth of an ecosystem of developers, technology, and end users, open licencing and open-source advancements may have consequences.

February and August 2021: Responsible AI: Approach Document for India (NITI Aayog)

Returning to NITI Aayog, following up on the 2018 discussion paper, the organisation produced "Responsible AI: Approach Document for India (Part 1: Principles for Responsible AI)." While elaborating on the principles for responsible AI, the document covers a range of

systems and societal considerations for AI, again with only a few sporadic references to intellectual property. The document mentions the security risks associated with relying on data, the architecture of the AI system, and the deployment environment in the section on system considerations for an AI on page 24. As stated in the document, "AI systems are susceptible to attack such as manipulation of data being used to train the AI...etc.", one possible consequence of this might be the possibility of losing intellectual property due to a potential "model steal" attack, i.e. In the chapter titled "Legal and Regulatory Approaches for Managing AI Systems" (page 32), the document outlines the relevant legal framework in place to address these and other concerns raised. It notes that although India does not have a law specifically pertaining to AI, it does have the IT Act 2000, which, when combined with the IT (Reasonable security practices and procedures and sensitive personal data on information) Rules, 2011 (SPDI Rules), provides a "technology-agnostic regime for the protection of sensitive personal information." It is surprising that in this instance, the report does not address any protection—or lack thereof—found in the nation's IP laws. NITI Aayog addresses how to effectively implement the responsible AI principles covered in Part 1 of the series, which is accessible through the link above, in Part 2 of the document titled Responsible AI: Approach Document for India (Part 2). The document notes on page 16 that more research is necessary regarding the use of AI for consequential decision making, which includes IP-related considerations for AI innovations, even though it does not specifically address IP in any way. Another interesting observation in the document was while discussing how AI can improve efficiency, it notes the Delhi High Court's order in Tata

Sky Limited v. National Internet Exchange India, where the court suggested using AI to prevent registration of identical and deceptively similar marks (page 6).

RESEARCH METHODOLOGY:

The research methodology for the present study would be doctrinal and analytical in nature. Primary sources of this study shall be legislative frameworks of India and other different countries, and government reports, government projects and further secondary sources shall be books, published articles, research papers, and reports.

DOCTRINAL APPROACH:

The research will adopt a doctrinal approach, focusing on the analysis and interpretation of legal and regulatory frameworks related to the topic of study. This approach involves examining primary legal sources, such as legislative acts, statutes, regulations, and case law, to understand the legal provisions governing facial recognition technology and privacy concerns in India and other countries.

PRIMARY SOURCES:

- a. **Legislative Frameworks:** The study will analyse the legislative frameworks of India and other countries to understand the legal provisions and regulations specific to Artificial intelligence and IPR.
- b. **Government Reports and Projects:** Primary sources will include reports and projects published by government agencies in India and other countries. These sources may provide valuable insights into the implementation, impact assessment, and policy recommendations related to the legal framework on IP rights.

SECONDARY SOURCES:

- a. Books: Relevant books focusing on the legal, ethical, and social aspects of facial recognition technology and privacy concerns will be consulted. These sources may provide in-depth analysis, theoretical perspectives, and historical context to support the research.
- b. Published Articles, Research Papers, and Reports: Academic articles, research papers, and reports from reputable sources will be reviewed. These secondary sources may provide insights into recent developments, case studies, empirical studies, and scholarly discussions on Artificial intelligence and latest technologies.

Analytical Approach:

The research methodology will also involve an analytical approach. This approach aims to critically evaluate and analyse the collected information from primary and secondary sources. It involves synthesizing the data, identifying patterns, comparing legal frameworks, highlighting challenges.

In depth analysis of Artificial intelligence

As discussed earlier, Artificial intelligence, if summed up, means the ability of computer systems to perform tasks with or without human interference. We have so far understood that AI has developed the capability to generate content without human interference. Now, this raises an important question whether the results produced by the machines are an outcome of its own intelligence or the commands that it might have received earlier. That means, whether the results generated by AI can be truly considered original. Alan Turing, who

had first mentioned Artificial intelligence, developed a test known as the Imitation test. Through this test, the researchers tried to understand whether the AI was really efficient in providing services similar to that of humans. AI's evolution history has a long timeline: - Starting from 1956, when John McCarthy coined the term 'artificial intelligence' at the first-ever AI conference at Dartmouth College. During the same year, Allen Newell, J.C. Shaw, and Herbert Simon developed the Logic Theorist, the first AI software programme ever to run. This was the first major event in AI. Then decades later it has developed to this stage that in 2023, AI has transformed and intelligent AI programmes like LLMs have risen leading to the development in potential of AI performance. As we had discussed earlier, Artificial intelligence is not just one technology existing in isolation, but rather it is a collection of latest uprising technologies. Major forms of AI are strong AI and weak AI. There are AI systems which are fed the data as inputs into their system and then generate results within these predetermined parameters while some AI systems are able to work independently with their own intelligence without assistance from humans. An example of an AI that can operate independently is Next Rembrandt, which can create artwork that resembles the works of the well-known artist. The researchers trained the AI to replicate the artwork of Rembrandt by using more than 350 of his paintings. After analysing these paintings, the AI created a unique but similar painting of an older or middle-aged Caucasian man with facial hair, dressed in black, a white collar, and a hat, facing right, as instructed by the AI programmers. The AI was given data by AI programmers, and it was able to determine the subject matter of Rembrandt's paintings on its own without human

input. Since the AI programmers were the only ones who provided the data, the painting that was produced can be regarded as independently created by the AI. Artificial intelligence can be classified into three categories: Artificial Narrow Intelligence, which is limited to intelligence in a narrow domain; Artificial General Intelligence, which is hypothetical; Super Intelligent AI, which is also hypothetical; and Artificial Narrow Intelligence, which is capable of performing a wide range of tasks across domains. Lastly, natural language system works on the NLP technology which aids in understanding human language. As we progress in Artificial intelligence related technologies, it is imperative to understand the difference between AI assisted work and AI generated work. assistance of AI. AI acted as merely a tool assisting the creator like a pen which acts as an aid to the writer. AI assisted work involves major human intervention whereas AI generated work is free from any sort of human intervention. The conundrum that we face here is with respect to AI generated work where the artificial intelligence has produced the results independently. There have been cases of AI-generated creative works, including paintings and films, all over the world. The German University of Konstanz created e-David, a painting robot, in 2009. The painting robot creates artworks by utilizing an optimisation loop and intricate visual feedback. It is the portion of the AI that symbolizes the erratic character of the output and a machine that can produce and innovate new work. E-David is more than just a straightforward photocopier. Instead of copying an existing work, it uses photographic images to generate original paintings that, if they had been made by a human, would have been covered by copyright. By deciding on colours and shapes and

figuring out how to best balance light and shadow, E-David may create images that are surprising and self-sufficient, creating original works based on fresh creative inputs. If this work had been produced by a human, it would be very conveniently granted IPR protection, but that is not the case with Artificial intelligence. This legal gap can act as a disincentive for researchers to develop such tools, when they are not protected under law. Harold Cohen created AARON at Stanford University's Artificial Intelligence Lab. Without human assistance, it is capable of producing paintings. Although it is built on a programme, this does not imply that the work produced by it is a continuation of the programme or that the programmer is in any way involved. The code is a collection of rules, and the AI can produce works that are beyond the programmer's wildest dreams, independent of who created the programme or how it came to be.

The emergence of Artificial Intelligence (AI)-generated works has sparked a discussion about whether or not these works are protected by copyright. It is divided into two sections: (1) AI-generated work that involves human participation, and (2) AI-generated work that involves little to no human involvement. Understanding AI's potential in the near future—without restricting it to a narrow vision based on the technology's current capabilities—is essential to delving into the legal realm of copyright protection of a work with regard to the author.

IPR Protection and it's legal framework

Intellectual property rights are designed to secure the rights of the inventor or creator over the work they have produced. These rights are intangible in nature, give recognition and economic benefits to the

creators. Similar to physical property rights, intellectual property rights (IPR) are territorial rights that allow an owner to sell, purchase, or grant a licence for their intellectual property (IP). It grants exclusive control over one's work. Every kind of IPR grants the author or innovator unique rights to maintain and reap financial rewards, which encourages innovation and advances society. The following categories of intellectual property rights exist based on the types of inventions and works of human intellect and their uses: i) patents; ii) trademarks; iii) industrial designs; iv) semiconductor integrated circuit layout design; v) geographic indications of source; and vi) copyright and related rights. The current status of IP in India is quite concerning, a recent report by the US Chamber of Commerce revealed that India ranked 29th out of 30 countries worldwide in the IP index. IPR and the framework of its policies have a direct impact on any society's development. IPR ignorance led to the demise of inventions, increased infringement risk, financial loss, and the end of the nation's intellectual era. IPR and the framework of its policies have a direct impact on any society's development. IPR ignorance led to the demise of inventions, increased infringement risk, financial loss, and the end of the nation's intellectual era. India was ranked 101st out of 140 countries in the world in the 2007 Knowledge Economy Index (KEI) survey by the World Bank. The survey was based on the countries' knowledge-based initiatives, policy frameworks, institutional regimes, economic incentives, and infrastructure related to information and communication technologies (ICTs). An analysis reveals that India's share in the global IPR filing market is a pitiful 1.6%, 3.14%, and 0.82% for patents, trademarks, and industrial designs, respectively. India is

trailing behind other countries in IPR involvement mostly because to a lack of knowledge among young people, academics, researchers, businessmen, and traders regarding IPR and its advantages. Intellectual property rights hold a vast spectrum of laws with various types of protection being awarded to the creator. Some of these are here discussed below:

1. **Patents:** A patent is a limited, 20-year exclusive right granted for an invention, which is a product or a process that generally offers a new way of doing something or a new technical solution to a problem. To be eligible for patent protection, an invention must meet certain requirements, including usefulness, novelty, and non-obviousness.
2. **Trademarks:** A trademark can be one or more words, letters, or numbers that uniquely identify a certain commodity or service as being created or offered by a particular individual or business.
3. **Copyright and related rights:** Copyright is a legal term that refers to the rights that authors and artists have over their literary and artistic creations. Authors typically sell the rights to their works to people or organizations that can best market them for a fee; this fee is typically determined by the actual use of the work and is known as a royalty.
4. **Geographic indications:** - A Geographical Indication (GI) is a label applied to products that are primarily identifiable to a certain geographic location and have qualities, reputations, or other attributes that are peculiar to that location. Handicrafts can be registered as geographical indications (GI) under the Geographical Indications of Goods (Registration and Protection) Act 1999 (the Act). As of July 31, 2016, 1152 GI Authorized

Users have registered for handcraft goods under the Act.

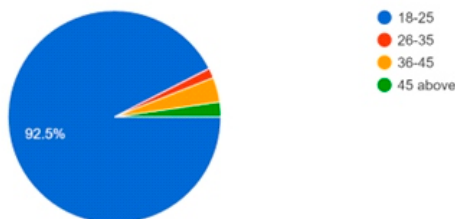
5. **Industrial designs:** - The term "industrial designs" refers to creative activity that results in a product's ornamental or formal appearance, while "design right" refers to a unique or original design that is granted to the owner of a validly registered design. The New Designs Act, 2000, which aims to enact a more detailed classification of design in order to comply with the international system and to address the proliferation of design-related activities in various fields, is the current legislation on industrial designs in India.
6. **Trade Secrets:** Generally speaking, a trade secret is any exclusive commercial knowledge that gives a company a competitive advantage. Trade secrets include commercial and manufacturing/industrial secrets. It is considered unfair behaviour and a breach of trade secret when someone other than the proprietor uses such information without authorization. Trade secrets are protected without registration, in contrast to patents.

These are the major types of protections granted under IPR.

Data representation and Analysis

Age

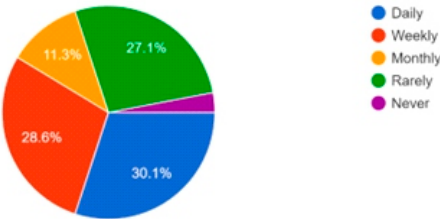
133 responses



From the pie-chart, we can assess that: The majority of respondents belong to the 18 to 25 age group (92.5%) and others [1.5% of 25-35, 3.8% of 35-45 and the rest 2.3% belong to 45 and above category].

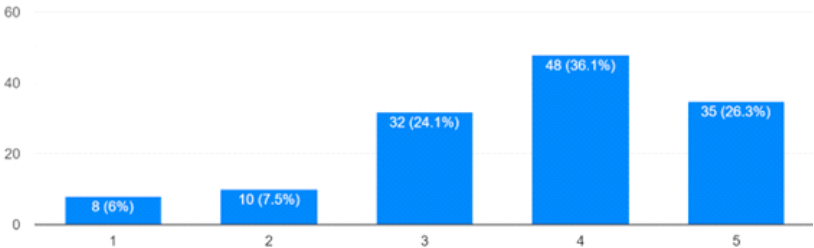
From my perspective, this happened because the questionnaire was circulated more among students as compare to others.

How often do you use AI for your official or personal purposes
133 responses



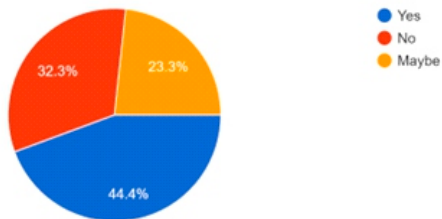
Here we can see that 30.1% of the people use AI on their daily basis, only 4% of the people falls under the category which does not use AI followed by others who use AI occasionally [28.6% use weekly, 11.3% monthly, and 27.1% people rarely use AI]

On a scale of 1 to 5 how useful AI has been to you
133 responses



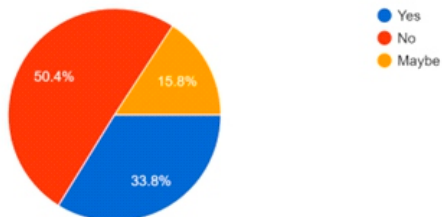
As we can see that the AI has been very useful to most of the people. Now a days people have become very AI friendly. There is high awareness about the AI among all types of consumers.

Except chatgpt are you aware of any other AI tools
133 responses

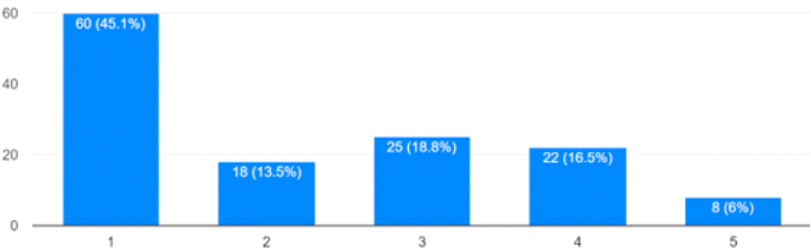


Many people are only aware of the weak AI like Chat gpt which is leading to underutilisation of Artificial Intelligence

Are you aware about IPR and the concept of referencing
133 responses

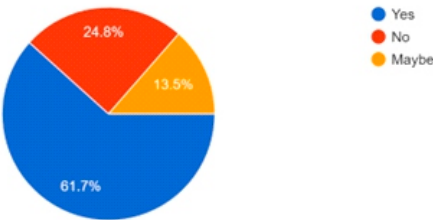


On the scale of 1 to 5 how aware are you about IPR
133 responses



The above pie chart and bar graph gives us information about how more than 50% of the people are unaware about IPR and the concept of referencing and have very least bit of knowledge about the IPR. This tells us about how there is a lack of awareness among the different respondents.

Have you ever used any AI generated Images or documents for your projects/assignments or any official work?
133 responses



This proves that the people are using the AI generated documents and content for their collegial and official purposes without being aware about the IPR and referencing. Majority

AI AND COPYRIGHT

One essential component of intellectual property rights is copyright. It is a legal privilege that gives the author of an original work the only authority to use and distribute it. Locke's economic theory of possessive individualism reinstates the notion that the author of an original work is an innovator and therefore, deserves to reap economic benefits out of it. Two prerequisites need to be fulfilled in order for a work to be granted copyright: - the work must be original and the work must be in tangible form. Copyright is typically used for literary and creative works and AI has been booming in the area of creative work. Let us try to understand this in the light of these popular judgements:-

1. *Burrow Gilles Lithographic Co. v. Sarony* - The issue concerned whether an image may be protected by a copyright. It was noteworthy because it addressed the distinction between effort that is creative and employment that is mechanical. The Court held that purely mechanical work is per se not creative, narrowing the scope of their protection. The Court addressed the issue of providing copyright protection to a product which is the output of a machine. Such strict approaches make it difficult for copyright to be granted to AI created works
2. *Bleistein v. Donaldson Lithographing Co.* - Judge Holmes, writing for the majority, outlined the uniqueness of human personality and stipulated that it is a prerequisite to a copyright.¹⁷ The Court made its stance clear by using the words "something irreducible, which is one man's alone," which meant that there was no scope for anything that was not a product of man's

creativity.¹⁸ This case was a continuation of the legal question consider in the previous case.

The lack of clarity surrounding the position on artificial intelligence (AI) goes back to 1974, when the National Commission on New Technological Uses of Copyrighted Works (CONTU) declared in one of its reports that the creation of an AI capable of producing autonomous work is theoretical rather than practical. 20 Years later, the debate over artificial intelligence (AI) is at its height. On the one hand, proponents claim computers are incapable of being as creative as humans, while opponents dispute this claim on the grounds that creativity is not defined. This is because the Office of Technology Assessment (OTA) disagreed with CONTU and proposed that AIs be recognised as legitimate co-authors of copyrighted works in 1986, when it reclaimed the issue.

AI AND PATENT

An exclusive right to an invention is what is known as a patent. An "invention" has historically been defined as any good or method that gives consumers a new way to carry out a certain task, even solving a technological issue that has been solved. In the modern technological world, there is a growing relationship between patent laws and artificial intelligence (AI). As this paper's previous section demonstrated, AI has been widely employed to streamline the performance of routine tasks and primarily decrease human labour. AI-enabled technologies appear to operate similarly to basic calculators and similar devices at first glance. On the other hand, its operation is far more intricate. These days, AI-enabled systems have the ability to carry out activities based on their own important

insights, which opens the door to potential inventions. Despite the fact that this is a significant technological advancement, from a legal one, that is, from the perspective of patent law, it raises important new concerns.

CONCLUSION

The way AIs are now positioned under intellectual property laws is problematic; while acknowledging AI-generated work is a positive move, the actual issue lies in how it is implemented. Several actions need to be taken in order to accommodate AI into our legal system

1. Closing the Gaps in AI Actions' Criminal Liability: - AIs are currently protected by copyright, which means that if an AI were to commit a crime, its creator would also be held criminally liable even though they may not have known about the AI's actions. This loophole needs to be closed to give the AI a specific sanction, such as the AI being destroyed or the technology that enabled it being banned from being used. This would be a significant step in preventing the punishment of innocent creators who have no control over the AI's behaviour.
2. Removing any doubts on how patent rules should be applied: Even if there is a distinct distinction between the inventor and the invention, policymakers must address the issue of whether AI-enabled systems should fall under this category in light of the development of AI systems. As these technologies are used more frequently and their solutions become more widely applied, the matter of protection becomes increasingly important. The most pressing need for appropriate rules is in the area of encouraging

human scientists to develop more of these systems while also acknowledging the risk of giving these highly intelligent systems total autonomy.

3. A Uniform Recognition for AIs: Although artificial intelligence (AI) is a reality worldwide, it is only recognised in a few countries, such as the United States, England, and New Zealand. One step in the right direction towards AI recognition could be for all members of multilateral trading forums to start recognising the same, for example, through an amendment to TRIPS.

REFERENCES

1. Artificial Intelligence Poses a Greater Risk to IP than Humans do. (2015, December 31). TechCrunch. <https://techcrunch.com/2015/12/31/artificial-intelligence-poses-a-greater-risk-to-ip-than-humans-do>
2. Boyle, J. (1992). Endowed by their creator? The future of constitutional personhood. The Brookings Institution Future of the Constitution Series, 70 N.C. L. Rev. 1231.
http://www.brookings.edu/papers/2011/0309_personhood_boyle.aspx
3. Final Report. (1978). National Commission on New Technological Uses of Copyrighted Works (p. 4). <http://eric.ed.gov/PDFS/ED160122.pdf>
4. Intellectual Property Rights in an Age of Electronics and Information. (1986). U.S. Office of Technological Assessment.
<https://www.princeton.edu/~ota/disk2/1986/8610/8610.PDF>
5. Lakshminath, A., & Sarda, M. (2011-2012). Digital revolution and artificial intelligence: Challenges to legal education and legal research. CNLU LJ, 2.
6. Leenheer Zimmerman, M. (2005). It's an original: In pursuit of copyright's elusive essence. Columbia Journal of Law & the Arts, 28, 187-194.
7. Patents. (n.d.). World Intellectual Property Organization.
<https://www.wipo.int/patents/en>
8. Turing, A. (1950). Computing machinery and intelligence. Mind, 59, 236-260.