THE INTERSECTION OF INTELLECTUAL PROPERTY AND ARTIFICIAL INTELLIGENCE

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ABSTRACT

One of the most remarkable aspects of the 20th century has been the surge in inventiveness that has been brought about by the creation of artificial intelligence (AI) systems in addition to the continued developments in science and technology. Recent records indicate that artificial intelligence (AI) systems are now capable of using data and instructions supplied by their programmers to develop original inventions on their own. In addition to functioning as a tool to help the creative process, AI systems may also serve as a tool to generate original ideas. While this is going on, intellectual property law (IP) ensures that the creative outputs of an individual are not seized or taken over by another individual without the consent of the original individual. Due to the fact that artificial intelligence (AI) is not a living entity but rather a result of human ingenuity, there has been a lot of debate in the intellectual property (IP) and artificial intelligence (AI) community over whether or not AI may gain authorship or inventorship rights to its inventions under IP law. In addition to highlighting the milestone, relevance, and promise for the future of artificial intelligence, this article provides an analysis of the challenges that artificial intelligence faces in accordance with the existing intellectual property regulations. The recommendations that are presented in the conclusion of the study would make it possible for artificial intelligence to be included into the legal system.

Keywords: Intersection, Artificial Intelligence (AI), Intellectual Property (IP), Legal System.

Introduction

The study of artificial intelligence (AI) is a subfield of the scientific discipline. It generates systems that mimic the efficiency of machines and possess an intelligence that is comparable to that of a human. The development of artificial intelligence has brought about a new level of technological advancement, which has had the effect of making life more comfortable and convenient for people. We are seeing the advantages of artificial intelligence in almost every facet of our day-to-day lives, from the correction of text to the operation of driverless vehicles. The idea that intelligence can be correctly classified in such a way that it can be absorbed by a computer is largely on the basis of this foundation. It was in the year 1955 when John McCarthy, an American computer scientist and cognitive scientist, was the first person to use the term "artificial intelligence." Officially originating at the Dartmouth Conference in 19562 is the field of study known as artificial intelligence (AI), which has been around for just sixty years yet has had a significant impact on our everyday lives. At the same time as artificial intelligence was being developed, the connection between human intelligence and that of robots was being recognised and formally acknowledged.

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Effect on Human Existence

From its infancy to its maturity, the evolution of artificial intelligence has been a fascinating journey. It is impossible to dispute the impact and influence that it has had on humans. Some people believe that we are now engaged in the fourth industrial revolution. Technology and the internet are the defining characteristics of the age known as the Fourth Industrial Revolution. As a result of the advent of the internet, the globe has transformed into a global village, and artificial intelligence (AI) has made it possible for highly automated and ubiquitous connections to dominate human life. Artificial intelligence is bringing in a big amount of cash for the economy of the United States. During this age of smartphones, artificial intelligence is available wherever one looks, and it is present every single day. In our day-to-day lives, we have been used to receiving recommendations from sites such as Netflix, Gaana, and Amazon, which you may find intriguing. A set of algorithms that take into account the tastes and decisions of individuals are responsible for producing these recommendations. Over the course of the next three decades, it is anticipated that artificial intelligence would provide a market value of up to $15.7 trillion to the global economy.

Artificial intelligence comprises a broad range of jobs, as suggested by its name. These tasks range from complex operations such as showing advertisements depending on user preferences to fundamental intelligent processes such as filtering incoming emails and deleting rubbish from the inbox. Within this context, artificial intelligence (AI) surpasses software owing to "deep learning algorithms," which enable the system to recognise probable spam from email content while taking into consideration the preferences of the user. It is important to remember that what one person considers to be spam may not be deemed spam by another. These deep learning algorithms do very well when it comes to pattern recognition tasks such as reading, listening, visualising, and classifying information. Artificial intelligence (AI) is gradually becoming an essential component of everyday life. Every time a person interacts with artificial intelligence by asking a question to Cortana or Siri, or by requesting assistance from Alexa, they are performing an interaction. After the voice assistants have discovered the relevant data, they next provide the responses to the devices that are the source of the query on their respective devices. There are several voice assistants that are able to anticipate future user requests by analysing the preferences or queries that have been made in the past.

The use of artificial intelligence in autonomous vehicles is fascinating! In order to understand how to drive, these cars do, in fact, make use of machine learning. Elon Musk, the Chief Executive Officer of Tesla, recently dropped hints that the company will soon launch a "car with all the features." This phrase refers to a fully autonomous vehicle that is capable of locating its owner in a parking lot and driving them there without any help from the driver. It has been shown that the experiment with driverless vehicles has not been successful up to this point; several incidents between drivers and these intelligent autos have been recorded as a result of the autonomous cars' rigorous adherence to traffic restrictions. The general public is rapidly becoming familiar with homes that are able to profit from artificial intelligence, in addition to automobiles and aeroplanes that are equipped with the technology. If all of the appliances and electronics in your home are equipped with artificial intelligence, you will be able to connect to them. In addition to that, there will be connections set up between the different appliances and instruments.

According to the writers Ravid and Liu, there are eight most important qualities of artificial intelligence that are interrelated and occasionally overlap with one another. The attributes that are being questioned are as follows: creativity, the ability to produce surprising results, autonomy and independence, logical intellect, evolution, the ability to learn, collect, access, and interact with external data, correctness and efficiency, and goal-orientedness. These features make it possible for artificial intelligence systems to generate outcomes on their own, and as technology advances, the ability of AI embedded systems to emulate the processes and products that we consider to be representative of the human mind will continue to rise. Today's artificial intelligence (AI) systems have the potential to improve a variety of human characteristics, including creativity, autonomy, and originality, as well as accuracy, speed, and the capacity to analyse vast amounts of data. This is in addition to the fact that they are beneficial for tackling particular challenges.

IP and Artificial Intelligence (AI): An Unavoidable Interface

Inventions in technology are the primary focus of artificial intelligence. Throughout history, people have been associated with the process of creation. It is possible that this idea is not relevant in the current age of artificial intelligence. Machine learning is more than simply a tool or a support system for people. It is responsible for the creation of a world of non-human species that possess intelligence and efficiency that are equivalent to that of humans. In light of this, the notion that humans are the only

creators is being put into question as a consequence of developments in artificial intelligence. At the moment, machines are responsible for the production of contents such as books, music, artwork, and other forms of material that may one day be protected by copyright.

"The science of making computers do things that require intelligence when done by humans," is what R. Kurzweil defines as artificial intelligence (AI). The production of works that are protected by copyright is one kind of activity that might fall under this category. There are several instances of innovations that are not created by humans, such as the Next Rembrandt project and the Deep-mind AI piano competency developed by Google. When it comes to works that were produced by robots or computers, the question of "where is the author's own intellectual creation" emerges. The most effective kind of protection is which one? To what extent do non-human entities have the right to copyright or patent protection? Or maybe a new manufacturer in the neighborhood, is that correct? That laws are unable to keep up with the rapid breakthroughs in artificial intelligence is not accurate. The conventional qualifying criteria, which only accepts creations and inventions generated by humans, presents a challenge when it comes to recognising non-human innovations and creations that belong to the category of non-human creations.

Review of Literature

Zakir, M. H., Khan, S. H., & Saeed, Z. (2023). The expanding influence of artificial intelligence (AI) on intellectual property rights is the subject of this research article, which also provides critical comments on the subject. It is necessary to reevaluate legal norms in light of the unanticipated pace of artificial intelligence technology, which is posing a challenge to the intellectual property frameworks that are now in place. The research begins by examining the ways in which artificial intelligence and intellectual property rights have evolved throughout the course of time. The purpose of this introductory section is to provide the groundwork for the contemporary intersection of these two kinds of fields. It investigates significant topics such as how artificial intelligence is affecting patent breakthroughs, how it is affecting trademarks, and how it is being incorporated into a growing corpus of protected works from a variety of perspectives. An analysis of international jurisprudence that is comparative in nature sheds insight on the enormous diversity of legal approaches that might be used to address these rising concerns. By addressing the coverage concerns and ethical considerations that come from integrating AI into the realm of intellectual property, the research throws light on various modifications that may be made to the law. These changes and considerations are brought to light by the study. This in-depth research aims to accomplish three things: (1) get a deeper understanding of the intricate relationship that exists between intellectual property rights and artificial intelligence; (2) forecast how the law will develop in the future; and (3) provide direction to those who are responsible for policymaking and practice.

Mazzi, F. (2023). It is stated in the United Nations Agenda for 2030 that the Sustainable Development Goals provide the greatest potential for future peace and prosperity. One of the most significant technological advances that took place during the Fourth Industrial Revolution was the creation of artificial intelligence. In addition to its many other roles, the worldwide system of intellectual property acts as an incentive for innovation. Every single one of these three spheres has an effect on the others. The objective of this chapter is to demonstrate how the three interrelated ideas of artificial intelligence, intellectual property, and sustainable development goals interact with one another; these links may have significant consequences for policy. You may be able to locate these instances in the published works. Through the use of artificial intelligence (AI) methods, the purpose of educating politicians, entrepreneurs, and intellectual property offices is to discover potential research subjects that have the potential to expand scientific understanding on the role that intellectual property plays in the accomplishment of the Sustainable Development Goals (SDGs). In the very last part of the chapter, the reader is given an introduction to this particular method of academic research.

Gaudry, K., Kabakoff, S., O'Connor, S. M., & Hallen, S. (2021). John McCarthy is credited as being the first person to use the term "Artificial Intelligence" in 1956, while he was participating in the Dartmouth Summer Research Project on Artificial Intelligence. According to his point of view, it is "the science and engineering of making intelligent machines." Both the applications of artificial intelligence (AI) and its capabilities have been expanding ever since that time. The reason for this is because there has been an increase in research into artificial intelligence and its possible applications, and there has also been a significant improvement in processing capacity. As a result of this, the term "artificial intelligence" today embraces a broad variety of different ideas. There are a number of ideas that fall under this area, including robots, deep learning, machine learning, natural language processing, and a great deal more. When we talk about cognitive computing, what we mean is a set of technological gadgets that are capable of simulating the operations of the brain.

Picht, P. G., & Thouvenin, F. (2023). One of the primary problems that arises throughout the process of formulating intellectual property law is the connection between artificial intelligence and intellectual property rights. Despite the fact that there has been a lot of debate on the subject, it has been approached with caution. It seems to be increasing practical relevance as a result of the economic boom that is associated with artificial intelligence, the growing corpus of case law, and legislative and international policy efforts. This resulted in the establishment of a research and policy effort that is now being carried out by the Swiss Intellectual Property Institute in collaboration with the Centre for IP and Competition Law at Zurich University. The purpose of this initiative is to investigate the potential applications of intellectual property law within the context of artificial intelligence. This research also provides a first set of policy proposals for the development of intellectual property law, with an eye towards artificial intelligence. Additionally, a short description of the AI/IP Research Project may be found in it. It is important to note that the suggestions span a broad variety of subjects. The treatment of artificial intelligence authorship and inventorship by copyright and patent law, the requirement for sui generis rights to protect unique AI output, guidelines for the allocation of intellectual property related to AI, protection carve-outs related to AI to facilitate system development, testing, and training, the utilisation of AI tools by IP offices, and appropriate software protection and data usage regimes are some of the matters that fall under this category.

Hilty, R., Hoffmann, J., & Scheuerer, S. (2020). This chapter reassesses the need of intellectual property protection in artificial intelligence markets in general, given the context of the ongoing discussion over the ways in which AI alters certain IP paradigms. Taking into account the theoretical foundations of intellectual property protection (from the perspectives of legal embedded deontology and utilitarian economics, respectively), we investigate the question of whether or not artificial intelligence (AI) should be designated as a tool and whether or not material generated by AI should be awarded intellectual property rights. Both of these justifications are considered to be the most important reasons for the traditional grant of IP. It is possible that intellectual property might be of assistance in accomplishing this objective by providing a regulatory framework that, via the utilisation of existing market forces, encourages innovation and creativity. On the other hand, according on what has been discovered up to this point, it seems that the majority of AI applications have been extensively used. This may have altered the grounds for preserving intellectual property linked to AI in some instances owing to the exclusive market impacts. Despite the fact that this may not be the case for the outcomes of AI processes, it seems to be the case for AI tools in general.

Methodology

For the purpose of this research paper, an interdisciplinary approach is used, which includes theoretical evaluation, comparative analysis, and legal analysis. A complete analysis of the literature, which includes academic publications, law reviews, and case law, is the first phase in the process. The goal of this step is to offer a full understanding of the historical and contemporary conditions of intellectual property law and its relationship to artificial intelligence. The ensuing study of offences builds upon this foundational information, which serves as the backdrop framework. While the study is being carried out, a comparative legal analysis is being carried out. This analysis involves the examination of legislation, case laws, and legal reviews from a number of different jurisdictions. These jurisdictions include the United States of America, the European Union, and significant Asian nations. This technique makes it possible to get information on the various and evolving legal responses to the impact that artificial intelligence will have on intellectual property rights all around the globe. Additionally, a comprehensive theoretical investigation is carried out in this study. This investigation investigates legal and moral theories in order to investigate the ways in which artificial intelligence has influenced the ideas of authorship, inventorship, and ownership in the context of trademark law.

An evaluation of both existing and proposed regulations and standards relating to artificial intelligence and intellectual property is also included in the report. This includes assessing the effectiveness of the frameworks that are already in place and providing suggestions for how they may be improved in order to successfully deal with new problems. When it is appropriate, the research incorporates professional evaluations and suggestions from educators and lawyers who have competence in artificial intelligence and intellectual property law. This helps to ensure that the evaluation is made with rational perspectives. This methodological combination of legal overview, comparative evaluation, theoretical investigation, and policy assessment guarantees a multidimensional grasp of the complicated relationship between artificial intelligence and intellectual property rights. This is an important step in the process of providing an assessment that is thorough, insightful, and forward-looking.

Data Analysis

The purpose of this research was to investigate the intricate connection that exists between artificial intelligence and intellectual property rights, and it came to a number of significant results. The use of artificial intelligence (AI) in the production of material challenges the traditional notions of authorship and ownership that are governed by copyright law. The area of patent law faces significant challenges as a result of the prospect that artificial intelligence (AI) might be the source of discoveries or contribute to their development. These challenges are especially relevant in terms of inventorship and ownership. Artificial intelligence and trademarks: The use of AI into branding and the development of trademarks presents new issues for regulatory authorities. Aspects of Ethics and Public Policy to Consider: When artificial intelligence is incorporated into intellectual property law, it raises major ethical concerns that need thorough policy consideration. From a Legal and International Perspective: There may be a significant amount of difference in the manner in which different countries are treating intellectual property concerns linked to artificial intelligence. This is because diverse legal and cultural norms exist.

Conclusion

Given the importance of AI in research and development and the breakthroughs in science and technology, AI authorship/inventorship rights must be addressed. Artificial intelligence is here to stay, and more complex systems will soon arise. Thus, governments must consider providing AI intellectual property rights. The majority of AI systems produce autonomous outputs because their results often outperform human inputs. However, AI still relies on human input in some situations. Authorship may be better assigned now rather than later. Given its independent potential, AI should be accorded intellectual property rights. Indeed, AI intellectual property rights activists argue that if businesses, rivers, and other non-human entities may have legal personality, so could AI. Thus, legal personhood for AI is recommended. Had AI been given artificial legal personhood, the discussion about expanding "person" under intellectual property law would have ended. One is cautious to argue for a 100% AI ownership/authorship right since certain AI systems, such as self-driving cars, may not be able to guarantee correctness and perfection. The PO should focus on the AI's creator to assign culpability when this occurs. Even if it takes time, IP laws should embrace AI as a "person," not only natural and artificial humans. AI has evolved enough to be legally regarded as a distinct entity. If the government refuses to widen the definition of "person" under IP law, a new section or aspect may be added to cover AI works. AI will be here to stay; therefore we should start thinking about how to incorporate it into our legal systems, notably intellectual property laws.

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