Page 870 - 879 **DOI:** *https://doij.org/10.10000/IJLMH.114097*

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 6 | Issue 1

2023

Intellectual Property Rights and Artificial Intelligence

MOHAMED JAMIRUL F.[1]

ABSTRACT

In the rapidly advancing and technologically aware society of today, artificial intelligence systems have been making significant headway in obtaining widespread adoption. As more and more complex technology is merged, it won't be long before these systems are able to develop incredible innovations without any assistance from human beings. This not only casts doubt on conventional understandings of ideas like patents and copyrights, but it also raises issues regarding the control of such creations, among other things. Important considerations about intellectual property rights (IPR) should be given due to the fact that this casts doubt on conventional understandings of ideas like patents and copyrights. This paper intends to provide light on the evolving intellectual property rights laws' application to artificial intelligence as well as the challenges that have resulted from this application. The study takes a worldwide view on the subject. Additionally, it proposes solutions that extend beyond intellectual property rights in order to address concerns regarding criminal liability for content generated by similar technologies.Furthermore, a more in-depth discussion of copyright difficulties in relation to AI solutions is included in this paper, along with an emphasis on how patent restrictions relate to Artificial Intelligence systems.

Keywords: *Intellectual Property Rights, Artificial Intelligence, Patents, Copyrights, AI enabled systems.*

I. INTRODUCTION

One of the most exciting developments in technology right now is artificial intelligence, which is also one of the essential elements of what is being called the fourth iteration of the industrial revolution also known as Industry 4.0. This is because its potential uses cut across many different domains, and it has the ability to boost production while also cutting expenses. Both of these factors contributed to this result. Recent developments in artificial intelligence (AI) and associated technologies, such as machine learning, have drastically impacted not only the landscape of the information technology industry but also everyday life. Just think about the drones that carry packages or the cars that drive themselves. There are other industries, such as retail, where artificial intelligence is already being used in a multitude of tangible yet

[1] Author is a LL.M. student at Amity Law School, India.

 [ISSN 2581-5369]

undetectable ways. These applications have a significant impact on the experiences that our customers have both online and in-person, while also increasing profits and the overall efficiency of supply and demand. This shift inexorably inspires observations on the social and regulatory domains, resulting in new legal gaps that need to be filled and challenges that, just a few decades ago, appeared to be problems of the far future. This change inexorably prompts reflections on the social and regulatory spheres. It is clear that the utilisation of robotics and intelligent systems carries with it a number of risks that need to be foreseen and kept an eye on, despite the fact that the development of artificial intelligence is expected to result in an infinite number of benefits. The risk that intelligent systems, which are the result of human programming, inherit the cognitive biases of humans and, as a result, make decisions that may be discriminatory is just one example. Another example is the possibility that the availability of big data in the hands of a few companies may favour the creation of new monopolies or be a source of distortions of competition on the market. These are just a few of the potential risks associated with big data. In addition, there is a requirement to regulate particular concerns that are associated with the application of AI. Some examples of these concerns include the distribution of liability for the actions of intelligent machines that are not always predictable or under the control of humans, as well as the question of whether or not intellectual property laws can be applied to the field of AI. Due to the fact that these problems are challenging to answer in light of the existing categories and legal concepts, specific legislation regarding the topic is now required to address them.In point of fact, there is no specific legislation that addresses how artificial intelligence systems should be used at this time, nor is there any legislation that addresses the legal and criminal repercussions that may result from unfavourable incidents or offences that are caused or related to their use. Therefore, the legal implications and issues associated with the conception, development, and use of these new technologies need to be taken into account within the context of current law and dealt with using the preexisting legal categories and principles. This must be done in order to avoid any potential legal conflicts. The laws governing copyright and the code governing industrial property will both be referred to in a similar fashion for the purpose of protecting intellectual and industrial property associated with the design and production of intelligent systems as well as the outputs that are derived from the utilisation of these systems. Last but not least, the new European Regulation no. 679/2016, also known as the General Data Protection Regulation (GDPR), is now the reference regulatory framework for resolving issues relating to the complex matter of the processing of personal data and the protection of rights and freedoms of the data subjects. This regulation came into effect on May 25, 2018. This law takes a very specific step forward from the premise

 [ISSN 2581-5369]

of adapting the issue of the processing and protection of personal data to the present tense. The draft of the future European Regulation on Artificial Intelligence was presented by the European Commission on April 21, 2021. This act will be the first regulatory act adopted in Europe in this field and was presented specifically to establish a common and uniform framework within the European Union. It will be the first regulatory act adopted in Europe in this field. Its purpose is to reduce and control the risk that is linked with the utilisation of intelligent systems while simultaneously preventing a halt in the spread of these technologies.

II. ARTIFICIAL INTELLIGENCE

The World Intellectual Property Organization (WIPO) identified three different types of artificial intelligence as currently existing: expert systems, perception systems, and natural-language systems[2]. Expert systems are computer programmes that address challenges in highly specialised realms of knowledge, such as identifying geological circumstances, recommending therapies, and diagnosing medical diseases. These types of problems require a high level of specialised expertise. A computer is given the ability to see and hear its surrounding environment thanks to a set of components known as perception systems. This method is utilised by many specialists such as topologists and word-context experts[3]. In the end, but certainly not least, a natural language software needs a database of definitions from dictionaries in order to understand what words imply. What is particularly impressive about the system is that it can do a semantic analysis while simultaneously taking into consideration a wide variety of grammatical and textual circumstances.

III. ARTIFICIAL INTELLIGENCE AND PATENTABILITY

There is a growing amount of interaction between Artificial Intelligence(AI) and patent restrictions in the contemporary technological environment due to the proliferation of AI. As was seen in the preceding part of this investigation, AI has been extensively utilised to improve the efficiency of the performance of fundamental activities and, more importantly, to reduce the amount of effort expended by humans. At first glance, the functionality of AI-enabled systems appears to be comparable to that of straightforward calculators and other gadgets operating along the same lines. However, it functions in a significantly more complicated way than I had anticipated. Artificial intelligence-enabled systems of today are capable of carrying out tasks based on their own critical insights, which opens the door to the possibility of creativity.

[2] A. Johnson-Laird, *Neural Networks: The Next Intellectual Property Nightmare*?, 7 THE COMPUTER LAWYER 14 (March 1990).
[3]R. Kurzweil, THE AGE OF INTELLIGENT MACHINES, 272- 275 (MIT Press: 1990).

 [ISSN 2581-5369]

Although this is a tremendous step forward in technological development, it does bring up some new and challenging considerations from a legal point of view, namely from the point of view of patent law. A patent represents the exclusive ownership of an innovation. This term "innovation" has been understood to apply to any product or technique that offers individuals a novel way to do a certain action, including those that present a novel approach to an existing technological problem[4]. The owner of such a right may be obligated by law to ban others from making, selling, or even utilising the patented innovation for a specified length of time. Thus, it might be argued that the right protected in such a circumstance supports the monopolisation of the original innovation. As previously said, AI-enabled systems are capable of carrying out tasks and even generating concepts that are generally the result of the application of human cognitive processes. In truth, the output of these machines may be deemed a patentable innovation. According to U.S. patent law, a "inventor" is a person or group who created or discovered the invention's central concept. This disproves the idea that the legislative intent of the United States was to include innovations or the possibility of non-humans creating inventions[5]. Nonetheless, because of the expanding use of AI systems in invention processes, these questions require legal consideration. The European Union's efforts to convince countries to extensively expand their national laws to include copyrightable works produced by computers and other devices under the title "own intellectual output" are reminiscent of this examination. While this is a step forward in recognising the creativity demonstrated by these systems when producing poetry, artwork, and other creative works, robots and AI systems must also be given due attention for their ideas and patent applications. The European Parliamentary Committee has highlighted how, in a few decades, AI systems may beat human intelligence in certain tasks, which, if left uncontrolled, could pose issues for how AI systems govern and direct their own actions[6]. Due to the high degree of autonomy of AI systems, one must pay particular attention to patent rights when addressing them. Due to their autonomy, AI-enabled systems can perform tasks with minimal or no human help. Due to this, these machines or programmes can be utilised early on in the research process, which may result in some type of "discovery" dependent on the capabilities of the machine. This illustrates the dilemma experienced when deciding how to protect such a "discovery."And innovation's ability to meet the patentability requirements is a crucial factor in determining whether or not it will be granted a patent. This

[4] *Patents*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, http:// www.wipo.int/patents/en/.
[5]Consolidated Patent Laws, § 100 (f), U.S.C 35, https://www.uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf.
[6] Draft Report with recommendations to the Commission on Civil Law Rules on Robotics, EUROPEAN PARLIAMENT (2014-2019), http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGM L%2BCOMPAR L%2BPE-582.443%2B01 %2BDOC%2 BPDF% 2BV0 //EN. 35 Id.

 [ISSN 2581-5369]

needs its originality, creativity, and industrial applicability[7]. Passing this three-step test is the primary barrier to obtaining a patent for ideas incorporating AI-enabled systems or technologies. In order to demonstrate uniqueness, the invention must deviate from what is known from the prior art. To properly determine at the invention stage whether his discovery is easily predictable or the result of additional study and a creative mental component, the inventor must typically conduct a comprehensive examination of the existing prior art. An AI system will surely have access to earlier works due to the oversight of human scientists who contribute information. However, is an AI system truly autonomous, much alone smart enough to determine whether its innovation can account for something novel? Concerning the issue of an innovative step, it is unquestionably more difficult to produce advances on current models or notions that are unclear to a person skilled in the art if novelty itself is difficult for the AI system to assess[8]. Typically, AI is being trained to achieve predetermined objectives. First, the technology must advance so that these computers can make decisions in unique scenarios by acquiring human-like intelligence. If an AI-enabled system developed software that can be utilised on generic machines, it would have practical utility, perhaps in several industries, so satisfying the industrial application condition of the patentability test. Nonetheless, countries such as India have eliminated their strict stipulation that only computer programmes in conjunction with unique hardware be patentable. In general, existing laws and procedures must be simplified so that patents can be granted for AI-based concepts. Given the multiple hurdles and misunderstandings that continue to surround patentability and other issues, however, additional research is required.

IV. ARTIFICIAL INTELLIGENCE AND COPYRIGHT PROTECTION

The protection of one's original creative work is an essential element of intellectual property rights. It is a legal privilege that is granted to the author of an original work. This privilege grants the author sole authority over the use and dissemination of the work. This was determined using Locke's economic theory of possessive individualism, which was linked with the concept that the author is a pioneer[9]. In most cases, in order for a copyright to be awarded, it is necessary to fulfill two essential requirements first. The work must be original, and it must initially take the shape of a physical object.The protection of creative and literary works is one of the primary

[7] The Patents Act, § 2(I), 1970 (India); The Patents Act, § 2(ja), 1970 (India); The Patents Act, § 2(ac), 1970 (India)

[8]Ronald Yu, *Should an Artificial Intelligence be allowed to Get a Patent?*ROBOHUB,http://robohub.org/should-an-artificial-intelligence-be- allowed-to-get-a-patent/.

[9] Leenheer Zimmerman, *It's an Original!(?): In Pursuit of Copyright's Elusive Essence*, 28 COLM. J. L. & ARTS 187, 194 (2005).

functions of copyrights. The production of literary works is one of the modern applications of artificial intelligence; thus, the investigation of copyright in light of AIs has become relevant.In one of its publications from 1974, the National Commission on New Technological Uses of Copyrighted Works (CONTU) declared that the construction of an AI with the capability to create an independent work is both theoretical and not realistic. This statement was made by the CONTU. As a consequence of this, the lack of clarity regarding where people stand with regard to AI is not a fresh phenomena[10]. In 1986, the Office of Technology Assessment (OTA) took another look at the problem by conducting an investigation into the potential impact on intellectual property brought on by the rapid advancements in interactive computing. The investigation was prompted by the fact that the OTA had previously looked into the issue. OTA took issue with CONTU's approach and proposed the concept that AIs should be recognised as valid co-authors of works that are protected by copyright laws[11]. This idea was put out in response to CONTU's position. One camp believes that computers will never be able to match the creative capacity of humans, while the other camp vehemently disagrees with this assertion while hiding behind the question of how creativity should be defined. In thirty years, the debate regarding artificial intelligence (AI) will reach its pinnacle, with one camp claiming that computers will never be able to match the creative capacity of humans. Even if different countries acknowledged that they had granted copyrights to an AI's inventions, it is still ambiguous and impossible to determine who the legitimate owner of those rights is. This is the case due to the fact that an artificial intelligence does not have the legal personality that is required of a right holder under present law unless its creator is given the ability to act on its behalf[12]. However, there is a gap in the legislation that relates to what would take place in the event that the AI system was bought, namely whether the purchaser or the developer would be granted ownership of the copyright. In countries such as England and New Zealand, where the copyright in works made by AI is assigned to the programmer by legal fiction, the answer to this question is in favour of the author. This is also the case in countries such as the United States. Providing legal backing for computer-generated works requires expanding the scope of the copyright concept to include computer-generated works (the ones that lack a human author, i.e., AIs). However, this does not answer the question that was presented earlier in the sentence.

[10] Final Report,NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS 4 (1978), http://eric.ed.gov/PDFS/ED160122.pdf.

[11] Intellectual Property Rights in an Age of Electronics and Information, U.S. OFFICE OF TECHNOLOGICAL ASSESSMENT (1986), https:// www.princeton.edu/ ~ota/disk2/1986/8610/8610.PDF.

[12] James Boyle, Endowed by their Creator? The Future of Constitutional Personhood, THE BROOKINGS INSTITUTION FUTURE OF THE CONSTITUTION SERIES, 70 N.C. L. REV. 1231 (1992), http:// www.brookings.edu/ papers/ 2011/0309_personhood_boyle.aspx.

 [ISSN 2581-5369]

Another problem with the system is the way criminal responsibility for AIs is currently assigned. When AI was initially invented, nobody could have foreseen the wonders that it would do, and it wouldn't be weird to think that growth will continue so that, in the future, AIs will be able to stand totally on their own. After then, the pertinent subject of whether or not an AI might be held legally accountable will be brought up for discussion. If the current strategy is continued, the author will be held responsible for the conduct, despite the fact that he did not have the necessary mental state or physical actions to do such an act.[13]

V. PROTECTION OF WORK CREATED BY ARTIFICIAL INTELLIGENCE

So under this scenario, credit for the original concept will always go to a human being, the problem does not emerge when a "human" author produces a piece of work utilising more or less sophisticated software. This is because the work will always be attributed to the human author. Instead, the issue emerges when computer programmes equipped with artificial intelligence (AI) of the "machine learning" sort are able to produce autonomously complex outputs that may be independent of the inputs that were entered by the programmer. This is when the problem becomes a problem. Actually, what we are discussing is already happening, as there are now artificial intelligence systems that are capable of autonomously producing musical, artistic, or literary works by analysing thousands of examples of such works. These systems are able to do this by learning from examples of existing musical, artistic, or literary works. It is astonishing that the works that were generated by AI were remarkably comparable to and similar to those that were produced by "human" intellect. However, similar to what we've already discussed in regards to the issue of accountability for damages brought on by AI behaviour, the current state of the law is also lacking in this regard. As a direct consequence of this, utilising the existing legal system to resolve the matter is challenging. It would appear that Italian law, like the laws of the vast majority of other nations' legal systems, operates under the presumption that only a natural person can be considered a "author" and, consequently, the original owner of both moral rights and economic rights to an intellectual work. As a result, it is abundantly evident that even if artificial intelligence is the "author" of the work, it is not eligible to benefit from economic rights, much less moral rights, due to the fact that it is a "object" rather than a human "subject." The legal system of the United Kingdom is the only legal system in the world that explicitly addresses the concept that a work of intellectual nature may be the result of the creative activity of a computer. This makes the legal system of the United Kingdom unique among foreign legal systems. In point of fact, the "Copyright Designs

[13] Prof. Gabriel Hallevy, *AI v. IP- Criminal Liability for Intellectual Property IP Offenses of Artificial Intelligence AI Entities*, ONO ACADEMIC COLLEGE,https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2691923.

and Patent Act" from 1988 stipulates that the person who made the necessary configurations so that the machine could generate the work in question is the one who is entitled to ownership of the intellectual rights (in their economic component) of a work that was created by a machine. This applies only to works that were created by a machine and not to works that were created by humans. In the event of a computer-generated literary, dramatic, musical, or artistic work, it is expressly stated that "the author shall be understood to be the person by whom the arrangements necessary for the development of the work are conducted." This definition of "author" applies even when the work was produced by a computer. There is no question that the way laid forth by the legislation in the UK is one of the options from which to select when drafting our own legislation and the legislation that would govern the European Union; nevertheless, it is not the only option. There are three primary perspectives that can be used to summarise various doctrinal beliefs. The first tactic is to take away any and all protections afforded to intellectual property rights for works that have been produced by artificial intelligence. If we are going to adhere to a literal reading of the terms of the law in the absence of an express legislative measure, then this is the explanation that makes the most sense at this point. However, it might discourage spending on the creation and implementation of intelligent systems. The second option, which is favoured by those who want to endow artificial intelligence (AI) with a legal personality, involves admitting the ownership of rights to the AI itself. This course of action is favoured by those who wish to endow AI with a legal personality. In contrast to the first theory, which does not appear to be all that appealing from an economic standpoint, the second theory now appears to be excessively futuristic and not very well justified from a legal one. This is in contrast to the first theory, which does not appear to be the case. The third potential strategy, which is a compromise between the first two (and, in our opinion, is unquestionably preferable to the others), aims to apply copyright law, even if it modifies and updates it, in all situations where the results of the activity of intelligent systems are in any case dependent on the decisions and inputs of a human being. This strategy strikes a middle ground between the first two and, in our opinion, is unquestionably preferable to the others. Because of this, whenever someone wants those results, it will always be the case that (or a group of individuals). Whoever would be entitled to the copyright law-provided rights, notably the rights of commercial exploitation, of the creative works produced by AI, if this method were to be followed, is the question. There are three possibilities that could be considered. It is possible that the people who invented, created, and produced the machine, the person who, in some way, set up the functions of the machine so that it could create the work in question, the owner of the machine (also by virtue of a purchase made by a producer or a distributor), and whoever set it

 [ISSN 2581-5369]

up, that has begun the economic exploitation of the work itself, could all be the owners of the property rights in the work that was created by the AI. In light of the laws that are already in place, there is no "correct" response. For this reason, the European Parliament has requested that the European Commission submit a legislative proposal in the domain of intellectual property in order to modify the existing legal framework to take into account the advancement of AI technology. This was done in order to take into account the fact that the current legal framework does not take into account the advancement of AI technology. It goes without saying that the objective is to encourage investment in these technologies while also preventing legal conflicts between member states.

VI. CONCLUSION

There is no room for debate over the fact that AI will make more and further strides with each passing day. Complex technologies that are based on AI will inevitably increase the number of potential software solution "inventions" as companies like GE, IBM, Apple, and others continue their work to revolutionise related technology. There is a significant amount of wiggle room for legislators to devise criteria for determining these instances and providing the parties involved with the highest level of legal protection that is feasible. However, the author does share Stephen Hawking's concern that the autonomy of AI may diminish the value of human cognition and invention. It's possible that the best course of action would be to provide inventions developed by AI with a patent protection that's more collaborative in nature. This is owing to the fact that the administration of the rights and obligations linked to patents involves a human element and cannot be done solely by a machine. This is because of the fact that patents were originally designed to be used by humans. In addition, because it is possible to use thousands of AI-enabled networks that function with or without human intervention, it is essential to provide some anthropomorphic agent with patent protection. This will allow the agent to be identified in the event that an invention fails to function as intended or has the potential to break the law, thereby exposing the inventor to the risk of facing criminal prosecution. In the effort to modernise intellectual property laws to reflect advances in technology, it is imperative to keep in mind that one cannot arbitrarily choose to tip the scales in favour of one side by reducing the positive effects that criminal laws can have, which inexorably depend on the presence of human factors. In addition, we cannot put all of our faith in artificial intelligence because doing so would minimise the significance of the human species as a whole. The existing legal standing of artificial intelligences in regard to intellectual property is problematic. While recognising the work generated by AI is a step in the right direction, the main problem lies with how it is executed. AIs are a reality everywhere; nevertheless, they are only acknowledged in a select

 [ISSN 2581-5369]

few nations, such as the United States of America, England, and New Zealand. This is despite the fact that AIs are present everywhere. If all of the participants in global trade forums started to accept AIs in the same way, for instance by changing TRIPS, it would be a step in the right direction. AIs of today are capable of performing activities that people do in every field. It would not be funny in the least if, at some point in the future, they were able to complete tasks more effectively than people and decide things for themselves. It is recommended that the Artificial Intelligence Data Protection Act, a piece of legislation that governs AIs, be enacted in order to maintain the same level of oversight. If a human actor is harmed by a violation of the law committed by an AI, there may be legal action that can be taken. The Act may also create a legal framework that may be used to oversee and judge the acts of AIs as well as investigate any transgressions that they may have committed. The creator of an AI now possesses copyright on the actions that it performs. In a similar vein, if any criminal liability were to arise, it would also be placed on the creator, even if the creator may not have been aware of the actions the AI had taken. This void needs to be filled in order to provide a tangible consequence for the artificial intelligence, which might take the shape of the AI's eradication or the prohibition of the technology that was responsible for its development. This would be a big step towards preventing the punishment of innocent creators who have no control over the behaviour of the AI, as it would be an important step towards preventing the punishment of those creators. Even while there is a clear distinction between the inventor and the invention, the proliferation of AI systems has made it very necessary for lawmakers to address the question of whether or not AI-enabled systems should be included in this category. Because of the growing adoption of these technologies and the widespread dissemination of the solutions they provide, the issue of protection has emerged as one of the primary concerns of modern society. The need for appropriate rules is especially pressing in the area of encouraging human scientists to develop more of these systems and the risk of giving these super intelligent systems complete autonomy. This is because both of these areas present the opportunity to give these systems complete control over their environments.

*****

 [ISSN 2581-5369]