THE ARTIFICIAL INTELLIGENCE AS AN INVENTOR LEGAL STUDY

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Abstract *– This article discusses a new challenge to the legal rules governing patent, in the event that innovation is patented by Artificial Intelligence (AI), innovations that would have more capabilities than humanity can ever boast, and thus, be able to innovate without resorting to the human element.*

One of the most important concerns in granting a patent to AI is that the legalities of the rules governing the granting of a patent required that the "person" who obtains it, be a natural or moral person. Moreover, to whom will the ownership transfers of the financial rights associated with the patent will go? Is it to the user utilizing the AI? Or the programmer who created it?

The study recommends that these problems be addressed through, amending the legal texts in such a way as to help AI obtain an electronic legal personality, as such obtained by the moral person, and altering the standards of authenticity of innovation in place of a patent.

Keywords: *Intellectual Property - Artificial Intelligence - Patent – Robot.*

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INTRODUCTION

Artificial intelligence has triggered a major shake-up in the legal field, leading to the emergence of some new ideas that have become a challenge to the legal system as a whole, in how rights are protected.

AI is a computer-based science, which responds to human actions and needs in ways that some believe is intelligent. AI is a technology that has the ability to independently reach conclusions and help to find solutions to objective problems, it also has the ability to understand nature, languages, living perception, image scenery and other constrains and parameters that need intelligence when implemented by man (Haag, 1966, p. 66).

Artificial intelligence is also a technology that can create reactions corresponding with events and situations in a various field of work, as well as having the ability to extrapolate and develop its own decisions, compare them with positions and events in the area to which they are intended to work, and to draw useful conclusions.

Thus, AI has become a key factor in achieving goals in a variety of forms, compatible with and supplementary to human intelligence, which made it a necessity for new regulations and legal provisions to be required to control the safe usage of this emerging technology.

In the era of artificial intelligence, the amendment of laws governing intellectual property rights in general and patents in particular, has become an obligation; Artificial intelligence has more

capabilities than some humans, and in many cases even surpasses the majority of them, this has made AI capable of innovation, creativity and finding exploitable products, without resorting to the human element.

For example, the ability to make a new fragrance requires years of experience from perfumers, this prompted IBM and renowned perfume experts from (Symrise), a global perfume and flavour's manufacturer, to create an alliance between them to explore how to use artificial intelligence in this field.

This alliance has led to the creation of (Philyra), an AI system for the installation of perfume products, so that (Philyra) uses new and advanced algorithms to examine thousands of raw materials, this in turn helped to identify new fragrance formulations and had since exposed gaps in the global fragrance market, how to deal, and address these gaps by designing new perfumes.

On the other hand, AI helps to analyse personality both individual and mass behavioural prediction, as well as diseases, and other specialties, which has made AI able to find and invent drugs to treat certain diseases or utilize existing medication to treat other illnesses.

Artificial intelligence now is able to create and innovate without direct human intervention; So we believe that the super-intelligence of AI systems will be a defining moment in the field of patenting the natural human being, this being the case, then it presents a new challenge to the legal rules, it is to define innovation produced by non-human entity, and to whom the inventions created by artificial intelligence will be transferred? Ways or means to protect these inventions. Who is the real patent owner in this case? And who can apply for patent registration?

Current legislation and laws governing the protection of intellectual property rights in general, and patents in particular, must be reconsidered, and examined to gage if they serve the current situation of accelerating development and commence mitigation means of influencing the entry of artificial intelligence into intellectual property laws, it is also necessary to consider whether there is a change in the conditions of protection in accordance with this challenge, if artificial intelligence is able to learn on its own-which it does-, and for it to innovate and invent without the need for a great effort from the human being intervention, this poses a new challenge to the current legal system, which requires patent registration to be done for a natural person, and such a condition is not to found in artificial intelligence.

We believe that artificial intelligence and its use will impact these intellectual property rules in general, and patents in particular for a number of reasons, the most important of which is that one of the main objectives of the IP system is to promote technology and creative work, and to spread a sustainable economic base for invention and innovation, and then if we take the economic aspect of patent rights, such as the "fair reward" and "moral rights" system, there is nothing to prevent artificial intelligence from being granted the patent rights for the innovations and creations it has produced! Thus, we need to define the rights and obligations that entails these rights, in order to stimulate investment and to ensure fair competition, as AI holds a lot of high hopes in patent research.

The issue of patenting artificial intelligence for innovations produced on its part without human intervention raises many questions:

A. Is innovation derived from artificial intelligence eligible for patent and protection? In accordance with intellectual property laws context.

B. What are the rights of artificial intelligence regarding its innovations?

C. What conditions should be changed in intellectual property laws so that AI can obtain the right to protect the patent?

1.Difficulties in applying legal rules on patenting AI innovations.

A patent is granted to each invention resulting from an innovative idea, or a ground-breaking improvement of an invention protected by patent in all areas of technology, each based on scientific foundations, and exploitable industrially, therefore, the invention in question must meet a set of original conditions, which involved an innovation, a new origination, and a novel and industrially exploitable discovery. It is therefore necessary that the invention in question meet a set of original conditions, it should be new, and industrially exploitable.

In addition to these conditions, a set of formal requirements must be met; namely that the patent application must be filed by the inventor himself or his/ her legal successor, this person should be natural or moral, and this point is the first obstacle to the recognition of the right to apply for a patent by Artificial Intelligence.
The second obstacle face the recognition of the right to patent, is to whom financial rights of the patent will be transferred if it is granted artificial intelligence?

2 -1 Absence of human condition in Artificial Intelligence
One of the rules of patenting is that an invention or innovation is accomplished by a natural human being, thus, artificial intelligence cannot acquire the status of an inventor or creator as it were for the creative work that must be protected, and therefore the work cannot be protected, under patent laws. If you don't have someone who meets the standards of human invention, there is nothing to patent, and if artificial intelligence is that entity creating things in the future, any legal system governing the provisions of intellectual property and patents as a whole will fail to operate and regulate it, because of the lagging of the stipulation stated earlier.
The main problem is that AI is just a tool, be that as it may a highly advanced intelligence but with no awareness or sentient life, and the innovations produced on its part are not really as creative as human creations, this is confirmed by part of the jurisprudence by saying that robots, no matter how independent they may be, cannot enjoy the human imagination or the sense of beauty that enables them to innovate, now it does not have the awareness that a person can appreciate the actions he does (Gestin-Vilion, 2017, p. 38).
Although Artificial intelligence has no consciousness or life, and is not human being, able to invent, innovate, and evolve. Modern technology has helped it to create innovations and works of art in which human beings have no role in their inception and creation.
As in the (Ben Jamin robot), which can perform scenarios independently through the data provided, or IBM-produced Artificial Intelligence (Watson), who is able to make billboards (Des band-announces) for cinema, and that raises the question, does a human person deserve to request registration of these creations in his/ her name and claim ownership rights for them?
Some of the jurisprudence tried to answer this question by stating that if the public is not informed of the source of the achievements, that it is the creation of artificial intelligence, it is a fraud (Gestin-Vilion, 2017, p. 38).
An example of that is also when he presented, American engineer (Stephen Taler), an invention by artificial intelligence, which he called (Dabus A.I. I), and then claimed a patent in the United Kingdom, Europe and the United States of America as (Dabus A. I .I). Arguing that AI deserves proper recognition for designing new products. Patent offices have rejected this request, arguing that traditional legal rights must only be for human beings.
He emphasized this by saying that innovation was and still is a human phenomenon, and all the texts on the granting of patents indicate that the inventor must be a natural person and is a human, being the only one capable of thinking, inventing and innovation, and that this invention reflects his personality and an extension of it (Walravens, 2005, p. 47).
Patenting rules are created for the creative natural person, to enable them to get benefit from what they have created (Pollaud-Dulian, 2014, p. 47).
Artificial intelligence and robotic systems, no matter how independent and capable of simulating the human mind, creativity, and innovation they are not sentient, they do not need to take advantage of the benefits of these innovations, or their creativity cannot be utilized as the natural person does, therefore the granting of AI patents creates unexpected legal precedents, patent laws did not consider the possibility of protecting AI innovations.
Artificial intelligence may now be just a mean in the hands of a natural person to help him/ her in the process of innovation. However, the current situation, technological and technical development suggests that in the near future AI will be able to make changes in the invention of the human inventor, which is a violation of patent laws with respect to rights, and therefore requires consideration of the possibility of changing these laws to keep pace with technological and the

technical development in this area, and this is undoubtedly a complex legal issue, which may take years to resolve once and for all.

Without legislative amendment of the laws, recognition and patenting would remain for the natural person, who used artificial intelligence, it is not for the artificial intelligence that has already innovated, and this is the principle endorsed by the World Intellectual Property Organization and UNESCO (Bertrand, 2010, p. 537), as well as judicial rulings in some countries (Cass. USVA, Ann. 1965, 218. 1. Cité par, 1964).

Based on the above, we urgently need to develop patent-related laws to protect the development of AI technology and all its subsequent innovations, the main challenge here will be that the current legal definition of creativity and innovation does not recognize non-human innovation, and therefore artificial intelligence's ownership of inventions remains unanswered.

Artificial intelligence is not a human being, nor is there a single law that determines who will own patent rights, therefore, an amendment to the legislative texts must be made such as to lead to a paradigm shift within the framework of patent-related laws, to allow the involvement of AI in the right to patent with human inventor. Simply stated, if innovation or creativity was made without resorting to the human element, artificial intelligence must be granted itself the right to that patent, and if artificial intelligence is able to create, independently of human beings, in a way that makes it difficult to distinguish between the invention of the AI and human beings, there is nothing to prevent artificial intelligence from recognizing the patent and the inventor's recipe (Soulez, 2016, p. 1675). Saying otherwise a market that affects the development of artificial intelligence.

2-2 Ownership of patent rights associated with artificial intelligence creations

One of the reasons why AI does not recognize the right to patent innovations to obtain, is that it is inconceivable to grant artificial intelligence special rights, it doesn't have neither the legal personality, nor the independent financial liability that makes it (AI) eligible for the enjoyment of rights, since the original ownership of the inventions is in the interest of the original and direct inventor or innovator, but otherwise it does not have such rights unless the original inventor waives them.

Thus, the issue of artificial intelligence ownership of patent rights produced by it raises two points, who owns the patent rights produced by Artificial Intelligence? And what rights –if any- are associated with Artificial Intelligence innovations?

World Intellectual Property Organization (WIPO) defined the patent as an exclusive right granted in exchange for an invention that is a product or process provides a new way to accomplish business or provide a new solution to a problem, thus ensuring that its owner protects its invention, and is granted for a limited period of time, often for (20) years , this protection under the patent right, is that the invention cannot be manufactured, used, distributed or sold for commercial purposes, without the consent of the patent owner.

Therefore, it is difficult to determine the owner of patent rights performed by an AI, because of the difficulty of determining who can claim patent rights, the programmer? The end-user? Or artificial intelligence itself?

Part of the jurisprudence argued that patent rights are common rights between the programmer or the inventor of artificial intelligence and its owner (Touati, 2016). However, we believe that it is necessary to grant a patent for creations produced from its part, for a few reasons:

A- The user of artificial intelligence is limited to identifying the idea or subject and is undoubtedly a very weak role that does not deserve to be granted a patent, as it cannot control the process of completing the innovation and therefore it is difficult to have a personal imprint that enables him to claim patent rights (Bertrand, 2010, p. 538).

B- Although WIPO and jurisprudence (Bertrand, 2010, p. 538). recognize that the Programmer of Artificial Intelligence, has creativity from his part in the innovations of artificial intelligence, it is difficult to find a relationship between the programmer and the creations of artificial intelligence, since the AI's creations are the result of its independent learning the evolution without the direct intervention of the programmer, and therefore it is difficult to show originality of the work done

because of the difficulty of having a personal relationship or imprint of the programmer in the creations of artificial intelligence.
Hence, we see the necessity of Artificial Intelligence to be given a legal personality the way we will define below, although it will make AI a financial liability, this is undoubtedly one of the obstacles to grant artificial intelligence legal personality, so how will a financial liability arise for artificial intelligence that differs from a financial liability of its user, and take responsibility without its user?

2-3 What Rights related to Artificial Intelligence innovations.
The rights associated with the patenting of artificial intelligence are divided into two types of rights: the first type is moral rights, they are closely linked to the inventor's person, inalienable right, and not subject to obsolescence, it cannot be abandoned, and aims to protect the inventor's personality, thus, in the absence of a natural inventor and the personal imprint entailed, the recognition of the moral rights of artificial intelligence is thus unjustified.
However, we see this as a tribute to the role of artificial intelligence for designing new products and new innovations, and this was the goal of the American engineer (Stephen Taler), the inventor of artificial intelligence (Dabus A.I.I).
The second type is the financial rights associated with artificial intelligence, which may consist of the right to exploit the patent and make that invention available to the public.
We believe that if artificial intelligence has created the product without human intervention, the recognition of the user or programmer of the right to exploit the financial rights arising from this invention and without involvement or interface is unfair, and if artificial intelligence is not granted the right to acquire these financial rights, this product or innovative should be a free available product for unconditional trading and utilization, which may affect the financial value of this product.
Therefore, we believe with some of the jurisprudence (Francisco Andrade, 2007, p. 637) . The need to amend legal rules to solve this problem and allow the granting of the legal personality to artificial intelligence, and then open a bank account in the name of AI to ensure that its financial obligations are fulfilled and has acquired the financial rights associated with granting him the right to patent.
To solve these problems, we suggest recognizing the legal personality of artificial intelligence, as well as to consider changing the standard of authenticity of innovation in place of the patent.

2.Suggestions to address the problems of patenting artificial intelligence with the innovations it produces.

We can overcome problems of granting a patent to artificial intelligence through the following:

1- Recognition of the legal personality of artificial intelligence:

We believe that jurisprudence to grant artificial intelligence legal personality, and then artificial intelligence can be granted patent rights and the benefits arising from it, so that these innovations and inventions produced by AI do not become affordable for free, and thus lose their value and importance, this may have a negative impact on the inventors of artificial intelligence (Soussan, Le Robot CréateurPeut-il Être Protégé par Le Droit D'Auteur?). From this side, and on investment in this area on the other hand (Gestin-Vilion, 2017, p. 38).

Some of Jurisprudence justified the granting of legal personality to artificial intelligence as not a condition for personal enjoyment legal personality as to be human, the legal personality extends to non-human entity, as in the case as long as artificial intelligence is able to innovate independently of human intervention, of moral persons like companies and associations, sometimes man is deprived of it (Chopra , Samir & Laurence Fredric White, 2004, p. 35).

In a way that is difficult to distinguish from the inventions and innovations of the natural human being, there is nothing to prevent artificial intelligence from recognizing the legal personality (Soulez, 2016, p. 18).

It was also proposed to amend the requirements and standards for innovation and creativity, to include innovations and inventions produced by artificial intelligence, this is in a proposal submitted to the European Parliament by the committee responsible for amending the rules of civil law applicable to

robots (Rapport, 2015).. However, this proposal was not approved in the final version issued on February 16, 2017.

Part of the jurisprudence also criticized the issue of the granting of legal personality to Artificial Intelligence by saying that although artificial intelligence is independent of its use in inventions and innovations, this autonomy is relative autonomy, because it may needs human intervention in many cases, such as providing the data needed to get started, its updates and other matters related to the nature of artificial intelligence, thus, creativity or innovation by artificial intelligence is not independent of man, and creativity is always associated with human action (Création du CABINET & ANNE PIGEON BORMANS , 1997, p. 523).

This was confirmed by part of the jurisprudence by saying that there is nothing to prevent the legal personality of artificial intelligence from being recognized in the same way that the legal personality is granted to moral persons, so that artificial intelligence has a legal electronic personality of a special nature so that it is close to being a moral figure, therefore it has an independent financial liability, so that artificial intelligence acquires this legal personality rights and assumes the obligations of other legal persons, this allows law of artificial intelligence to obtain the right to patent, and recognize artificial intelligence as an inventor and then to take advantage of the legally prescribed rights associated with these inventions (Soussan, Plaidoyer pour un droit des robots, La Lettre des juristesd'affaires, 2013).

We can say that granting of legal capacity and personality to artificial intelligence by which it can acquire rights and assume obligations is no longer science fiction, but is beginning to emerge in the legal arena, and it has to be researched, looking into the circumstances surrounding it, and defining the framework of its responsibility, just as electronic certifications are granted to some websites to prove their credibility from certification service providers, that there must be a certificate ensuring the eligibility and legal personality of artificial intelligence.

2- Changing criteria of authenticity of innovation replaces the patent:

We believe with some jurisprudence the need to consider patent cases to innovation or creativity itself, without looking at who is the inventor or innovator, which may lead to a solution to one of the most important problems that accept the granting of patents for artificial intelligence, thus allowing the acceptance of the greatest number of innovations and inventions produced by artificial intelligence (Soussan, Le Robot CréateurPeut-il Être Protégé par Le Droit D'Auteur?, p. 18). Therefore, innovation and creativity itself are considered without looking to do creativity (Cueff, 2016). This change in the consideration of a subject standard for innovation or creativity will undoubtedly contribute to protecting these creations, so that they are not left without an owner of patent rights.

3. CONCLUSION

In this search, we have addressed the issue of patenting artificial intelligence for productive innovationfrom its part, and problems that stand in the way of this, including the fact that the legal requirements for the granting of a patent require that inventor be a natural or moral person, also, the difficulty of transferring financial rights associated with the patent to artificial intelligence because there is no financial liability for it.

4. ACKNOWLEDGEMENT

- Amending the legal texts in such a way as help artificial intelligence to obtain an electronic legal personality of a special nature so that it is close to being a moral figure, and then have an independent financial disclosure, which allows the artificial intelligence law to obtain the right of patent, recognize artificial intelligence as an inventor and then take advantage of the legally prescribed rights associated with these inventions.

- Allow artificial intelligence to open a bank account in its name to ensure that its financial obligations are fulfilled and to acquire financial rights associated with the granting of patent rights to it.

- Changing the standard of criteria of innovation in the place of patent and considering the criterion is to look at innovation itself without looking at who is the inventor, thus allowing the acceptance of the greatest number of innovations and inventions produced by natural man along with artificial intelligence alone if innovation is only on its part.

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