To: World Intellectual Property Organization (WIPO)
Subject: IP Policy in relation to Artificial intelligence issues.
Date: 13/02/2020
In response to the request for comments by World Intellectual Property Organization dated in Sep. 27, 2019. The Saudi Authority for Intellectual Property thanks the WIPO for the opportunity to discuss the important issues presented in the request for comments to Artificial Intelligence and IP Policy.

Patents
Issue 1: Inventorship and Ownership
In most cases, AI is a tool that assists inventors in the invention process or constitutes a feature of an invention. In these respects, AI does not differ radically from other computer-assisted inventions. However, it would now seem clear that inventions can be autonomously generated by AI, and there are several reported cases of applications for patent protection in which the applicant has named an AI application as the inventor.
In the case of inventions autonomously generated by AI:

(i) Should the law permit or require that the AI application be named as the inventor or should it be required that a human being be named as the inventor? In the event that a human inventor is required to be named, should the law give indications of the way in which the human inventor should be determined, or should this decision be left to private arrangements, such as corporate policy, with the possibility of judicial review by appeal in accordance with existing laws concerning disputes over inventorship?

It is too early to give inventorship to AI without setting the policy on the basis of solid evidence proving that AI invention gives bigger benefit than negative impact. Therefore, the law should not permit the AI application to be named as the inventor of the invention. The inventor can be only a person who contributes to the invention's conception in the form of devising an idea or a plan in the mind. However, the AI applications should be related to the human who added a value to the AI invention.

Furthermore, the ownership of the application should be related to the one who owns and invested to the AI.

(ii) The inventorship issue also raises the question of who should be recorded as the owner of a patent involving an AI application. Do specific legal provisions need to be introduced to govern the ownership of autonomously generated AI inventions, or should ownership follow from inventorship and any relevant private arrangements, such as corporate policy, concerning attribution of inventorship and ownership?

As stated above, there is no additional legal provisions needed to address the ownership. We think the corporate policy is the place to manage the inventor ship.

Generally, the ownership can be considered after the inventorship to AI is settled.

(iii) Should the law exclude from the availability of patent protection any invention that has been generated autonomously by an AI application? See also Issue 2, below.

AI application should not be excluded from patent protection .If AI application were allowed, the patent protection of AI application should be applied as the other ordinary application.

Issue 2: Patentable Subject Matter and Patentability Guidelines

Computer-assisted inventions and their treatment under patent laws have been the subject of lengthy discussions in many countries around the world. In the case of AI-generated or -assisted inventions:

(iv) Should the law exclude from patent eligibility inventions that are autonomously generated by an AI application? See also Issue 1(iii), above.

If we address the ownership of inventions that has been generated autonomously by AI application then the law shouldn't exclude the AI application from eligibility subject matter.

(v) Should specific provisions be introduced for inventions assisted by AI or should such inventions be treated in the same way as other computer-assisted inventions?

The inventions assisted by AI should be treated in the same way as other computer-assisted inventions.

(vi) Do amendments need to be introduced in patent examination guidelines for AI-assisted inventions? If so, please identify which parts or provisions of patent examination guidelines need to be reviewed.

Yes, the inventive steps (obviousness) and industrial applicability guideline should be reviewed to accommodate the AI assisted inventions.

Issue 3: Inventive Step or Non-Obviousness

A condition of patentability is that the invention involves an inventive step or be non-obvious. The standard applied for assessing non-obviousness is whether the invention would be obvious to a person skilled in the relevant art to which the invention belongs.

(i) In the context of AI inventions, what art does the standard refer to? Should the art be the field of technology of the product or service that emerges as the invention from the AI application?

The art should be the field of technology of product or services that emerges as the invention. In particular, the advancement of AI may significantly affect the standard of obviousness. We suggest adding the AI invention classification to IPC, so the AI invention can be easily accessible. In addition, the AI invention needs to have sub IPC for the AI applied field.

(ii) Should the standard of a person skilled in the art be maintained where the invention is autonomously generated by an AI application or should consideration be given to replacing the person by an algorithm trained with data from a designated field of art?
There is no specific answer. However, AI has faster computing power than humans and access to expansive data sets, so something that is difficult for a human to create could be obvious to a computer—and thus obvious to a human who has access to that computer. On the basis of the fact that AI can refer to all technology fields in nature, it is not necessary to narrow the field of art for the AI invention.

(i) What implications will having an AI replacing a person skilled in the art have on the determination of the prior art base?

The AI may have significantly impact to the standard of prior art and it will extend>

(ii) Should AI-generated content qualify as prior art?

Not always.

Issue 4: Disclosure

A fundamental goal of the patent system is to disclose technology so that, in the course of time, the public domain may be enriched and a systematic record of humanity's technology is available and accessible. Patent laws require that the disclosure of an invention be sufficient to enable a person skilled in the relevant art to reproduce the invention.

(iii) What are the issues that AI-assisted or AI-generated inventions present for the disclosure requirement?

For the disclosure requirements, the patent offices must ensure that it applies the written description and enablement requirements fully to AI inventions. However, this will often be incorrect and difficult in the AI context because of the sensitively system and complicated.

(iv) In the case of machine learning, where the algorithm changes over time with access to data, is the disclosure of the initial algorithm sufficient?

No, any small changes to data or initial algorithm will having potentially major effects.

(v) How should data used to train an algorithm be treated for the purposes of disclosure? Should the data used to train an algorithm be disclosed or described in the patent application?

The description and source of data should be disclosed in order for the third party to implement the invention without unreasonable burden.

(vi) Should the human expertise used to select data and to train the algorithm be required to be disclosed?

Only if these human expertise would contributed to the invention, it should be required to be disclosed.

Issue 5: General Policy Considerations for the Patent System

A fundamental objective of the patent system is to encourage the investment of human and financial resources and the taking of risk in generating inventions that may contribute positively to the welfare of society. As such, the patent system is a fundamental component of innovation policy more generally. Does the advent of

inventions autonomously generated by AI applications call for a re-assessment of the relevance of the patent incentive to AI-generated inventions. Specifically,

(vii) Should consideration be given to a sui generis system of IP rights for AI-generated inventions in order to adjust innovation incentives for AI?

Yes, this may adjust the innovation incentive for AI.

(viii) Is it too early to consider these questions because the impact of AI on both science and technology is still unfolding at a rapid rate and there is, at this stage, insufficient understanding of that impact or of what policy measures, if any, might be appropriate in the circumstances?

We agree with the idea related to the impact of AI technologies, which is still unfolding yet. Therefore, any policies should be adopt after understanding the actual impact.

Copyright and Related Rights

<u>Issue 6: Authorship and Ownership</u>

AI applications are capable of producing literary and artistic works autonomously. This capacity raises major policy questions for the copyright system, which has always been intimately associated with the human creative spirit and with respect and reward for, and the encouragement of, the expression of human creativity. The policy positions adopted in relation to the attribution of copyright to AI-generated works will go to the heart of the social purpose for which the copyright system exists. If AI-generated works were excluded from eligibility for copyright protection, the copyright system would be seen as an instrument for encouraging and favoring the dignity of human creativity over machine creativity. If copyright protection were accorded to AI-generated works, the copyright system would tend to be seen as an instrument favoring the availability for the consumer of the largest number of creative works and of placing an equal value on human and machine creativity. Specifically,

(ix) Should copyright be attributed to original literary and artistic works that are autonomously generated by AI or should a human creator be required?

Human creator should be required.

(x) In the event copyright can be attributed to AI-generated works, in whom should the copyright vest? Should consideration be given to

according a legal personality to an AI application where it creates original works autonomously, so that the copyright would vest in the personality and the personality could be governed and sold in a manner similar to a corporation?

Yes.

(xi) Should a separate sui generis system of protection (for example, one offering a reduced term of protection and other limitations, or one treating AI-

generated works as performances) be envisaged for original literary and artistic works autonomously generated by AI?

This is can be solutions for many issues related to the term of protection and the ownership and others. I would suggest separating the literary and artistic works autonomously generated by AI from the copyright law.

Issue 7: Infringement and Exceptions

An AI application can produce creative works by learning from data with AI techniques such as machine learning. The data used for training the AI application may represent creative works that are subject to copyright (see also Issue 10). A number of issues arise in this regard, specifically,

(i) Should the use of the data subsisting in copyright works without authorization for machine learning constitute an infringement of copyright? If not, should an explicit exception be made under copyright law or other relevant laws for the use of such data to train AI applications?

The use of data without authorization is a type of infringement because it is not mentioned in limitations and exceptions. Some countries such as Japan (copyright law 47-7) stipulate that the use of data for the purpose of research is an exception. It should be an explicit exception be made under copyright law or other relevant laws for the use of such data to train AI applications.

(ii) If the use of the data subsisting in copyright works without authorization for machine learning is considered to constitute an infringement of copyright, what would be the impact on the development of AI and on the free flow of data to improve innovation in AI?

It would lag the research and development of AI technology.

(iii) If the use of the data subsisting in copyright works without authorization for machine learning is considered to constitute an infringement of copyright, should an exception be made for at least certain acts for limited purposes, such as the use in non-commercial user-generated works or the use for research?

There should be an exceptions.

(iv) If the use of the data subsisting of copyright works without authorization for machine learning is considered to constitute an infringement of copyright, how would existing exceptions for text and data mining interact with such infringement?

That exception should be applied according to its scope. In the other hand, that exception can't exempt the use of AI learning without authorization.

(v) Would any policy intervention be necessary to facilitate licensing if the unauthorized use of data subsisting in copyright works for machine learning were to be considered an infringement of copyright?

Yes, it may facilitate the licensing. Like Japan case, it is time to consider policy to allow some specific use of data for AI learning.

(vi) How would the unauthorized use of data subsisting in copyright works for machine learning be detected and enforced, in particular when a large number of copyright works are created by AI?

If the data subsisting in copyright has been published, then it can be enforced.

Issue 8: Deep Fakes

The technology for deep fakes, or the generation of simulated likenesses of persons and their attributes, such as voice and appearance, exists and is being deployed. Considerable controversy surrounds deep fakes, especially when they have been created without the authorization of a person depicted in the deep fake and when the representation creates actions or attributes views that are not authentic. Some call for the use of deep fake technology to be specifically banned or limited. Others point to the possibility of creating audiovisual works that might allow the deployment of popular or famous performers after their demise in a continuing manner; indeed, it might be possible for a person to authorize such use.

Should the copyright system take cognizance of deep fakes and, specifically,

Since deep fakes are created on the basis of data that may be the subject of copyright, to whom should the copyright in a deep fake belong? Should there be a system of equitable remuneration for persons whose likenesses and "performances" are used in a deep fake?

The copyright should belong to the creator of work. There should be a system of equitable remuneration for persons whose likenesses and "performances" are used in a deep fake.

Issue 9: General Policy Issues

Comments and suggestions identifying any other issues related to the interface between copyright and AI are welcome. Specifically,

(vii) Are there seen or unforeseen consequences of copyright on bias in AI applications? Or is there a hierarchy of social policies that needs to be envisaged that would promote the preservation of the copyright system and the dignity of human creation over the encouragement of innovation in AI, or vice versa?

Data

Data are produced in increasingly abundant quantities, for a vast range of purposes, and by a multiplicity of devices and activities commonly used or undertaken throughout the whole fabric of contemporary society and the economy, such as computing systems, digital communication devices, production and manufacturing plants, transportation vehicles and systems, surveillance and security systems, sales and distribution systems, research experiments and activities, and so on.

Data are a critical component of AI since recent AI applications rely upon machine learning techniques that use data for training and validation. Data are an essential element in the creation of value by AI and are, thus, potentially economically valuable.

Comments on appropriate access to data protected by copyright used for training AI models should be included in Issue 7 above.

Since data are generated by such a vast and diverse range of devices and activities, it is difficult to envisage a comprehensive single policy framework for data. There are multiple frameworks that have a potential application to data, depending on the interest or value that it is sought to regulate. These include, for example, the

protection of privacy, the avoidance of the publication of defamatory material, the avoidance of the abuse of market power or the regulation of competition, the preservation of the security of certain classes of sensitive data or the suppression of data that are false and misleading to consumers.

The present exercise is directed only at data from the perspective of the policies that underlie the existence of IP, notably, the appropriate recognition of authorship or inventorship, the promotion of innovation and creativity, and the assurance of fair market competition. The classical IP system may be considered already to afford certain types of protection to data. Data that represent inventions that are new, non-obvious and useful are protected by patents. Data that represent independently created industrial designs that are new or original are likewise protected, as are data that represent original literary or artistic works. Data that are confidential, or have some business or technological value and are maintained as confidential by their possessors, are protected against certain acts by certain persons, for example, against unauthorized disclosure by an employee or research contractor or against theft through a cyber intrusion.

The selection or arrangement of data may also constitute intellectual creations and be subject to IP protection and some jurisdictions have a sui generis database right for the protection of the investment made in compiling a database. On the other hand, copyright protection is not extended to the data contained in a compilation itself, even if the compilations constitute copyrightable intellectual creations.

The general question that arises for the purposes of the present exercise is whether IP policy should go further than the classical system and create new rights in data in response to the new significance that data have assumed as a critical component of AI. The reasons for considering such further action would include the encouragement of the development of new and beneficial classes of data; the appropriate allocation of value to the various actors in relation to data, notably, data subjects, data producers and data users; and the assurance of fair market competition against acts or behavior deemed inimical to fair competition.

<u>Issue 10: Further Rights in Relation to Data</u>

(viii) Should IP policy consider the creation of new rights in relation to data or are current IP rights, unfair competition laws and similar protection

regimes, contractual arrangements and technological measures sufficient to protect data?

The current IP right, unfair competition laws and similar protection regimes etc.. Can be sufficient to protect data with certain development. We think that current IP system doesn't address all data issues.

(ix) If new IP rights were to be considered for data, what types of data would be the subject of protection?

See (i)

(x) If new IP rights were to be considered for data, what would be the policy reasons for considering the creation of any such rights?

See (i)

(xi) If new IP rights were to be considered for data, what IP rights would be appropriate, exclusive rights or rights of remuneration or both?

See (i)

(xii) Would any new rights be based on the inherent qualities of data (such as its commercial value) or on protection against certain forms of competition or activity in relation to certain classes of data that are deemed to be inappropriate or unfair, or on both?

If there is any new rights, it should include both.

(xiii) How would any such rights affect the free flow of data that may be necessary for the improvement of AI, science, technology or business applications of AI?

Any new rights should exclude the right to use data for the research non-commercial purpose.

(xiv) How would any new IP rights affect or interact with other policy frameworks in relation to data, such as privacy or security?

Any new IP rights should be aligned with the privacy and security policy.

(xv) How would any new IP rights be effectively enforced?

The effective enforcement of intellectual property rights is critical to sustaining economic growth across all industries and globally, the way to inforce any new rights is by insure the law and its regulations are sufficiently address the enforcement of the new rights.

Designs

<u>Issue 11: Authorship and Ownership</u>

24. As with inventions, designs may be produced with the assistance of AI and may be autonomously generated by an AI application. In the case of the former, AI-assisted designs, computer-aided design (CAD) has long been in use and seems to pose no particular problems for design policy. AI-assisted designs might be considered a variant of computer-aided design and might be treated in the same way. In the case of AI-generated designs, questions and considerations arise that are similar to those that arise with respect to AI-generated inventions (Issue 1, above) and AI-generated creative works (Issue 6, above). Specifically,

(I) Should the law permit or require that design protection be accorded to an original design that has been produced autonomously by an AI application? If a human designer is required, should the law give

indications of the way in which the human designer should be determined, or should this decision be left to private arrangements, such as corporate policy, with the possibility of judicial review by appeal in accordance with existing laws concerning disputes over authorship?

Yes, the law should permit the design protection be accorded to an original design that has been produced autonomously by an AI application. The law should give indications of the way in which the human designer should be determined.

Is there any ground to differentiate patent and design for AI?

(II) Do specific legal provisions need to be introduced to govern the ownership of autonomously generated AI designs, or should ownership follow from authorship and any relevant private arrangements, such as corporate policy, concerning attribution of authorship and ownership?

The Corporate policy may arrange the ownership or any relevant private arrangements. However, the uniform rules of ownership should be considered and carefully studied.

Technology Gap and Capacity Building:

25. The number of countries with expertise and capacity in AI is limited. At the same time, the technology of AI is advancing at a rapid pace, creating the risk of the existing technology gap being exacerbated, rather than reduced, with time. In addition, while capacity is confined to a limited number of countries, the effects of the deployment of AI are not, and will not be, limited only to the countries that possess capacity in AI.

26. This evolving situation raises a considerable number of questions and challenges, but many of those questions and challenges lie well beyond IP policy, involving, for example, questions of labor policy, ethics, human rights and so forth. This present list of issues, and WIPO's mandate, concerns IP, innovation and creative expressions only. In the field of IP, are there any measures or issues that need to be considered that can contribute to reducing the adverse impact of the technology gap in AI?

Issue 12: Capacity Building

(i) What policy measures in the field of IP policy might be envisaged that may contribute to the containment or the reduction in the technology gap in AI capacity? Are any such measures of a practical nature or a policy nature?

One side of IP equation is to promote the benefits of the public through the effective publication of IP. IPRs by AI should be handled in the same way and WIPO should actively provide the technical assistance to reduce the gap.

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Accountability for IP Administrative Decisions

27. As indicated in paragraph 2(a), above, AI applications are being increasingly deployed in IP Administration. The present list of issues is not concerned with questions relating to the development and possible sharing of such AI applications among Member States, which are being discussed in various working meetings of the Organization and in various bilateral and other relationships between different Member States. However, the use of

AI in IP Administration also raises certain policy questions, most notably the question of accountability for decisions taken in the prosecution and administration of IP applications.

Issue 13: Accountability for Decisions in IP Administration

(i) Should any policy or practical measures be taken to ensure accountability for decisions made in the prosecution

and administration of IP applications where those decisions are taken by AI applications (for example, the encouragement of transparency with respect to the use of AI and in relation to the technology used)?

Each national office is introducing AI technology to the IP administration under its own responsibility. Thus, it is reasonable that accountability is also the matter handled by each national office.

(ii) Do any legislative changes need to be envisaged to facilitate decision-making by AI applications (for example, reviewing legislative provisions on powers and discretions of certain designated officials)?

At the moment, we don't find any legislative change necessary.

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