[SUBMISSION PAPER]

SUBMISSION PAPER ON THE ARTIFICIAL INTELLIGENCE AND ARTIFICIAL INTELLIGENCE GENERATED WORK/INVENTION INTELLECTUAL PROPERTY POLICY

1. INTRODUCTION

> ### *'Mindful* of the positive contribution information technology makes to global economic growth and welfare'
>
> (Preamble in the Singapore Ministerial Declaration on Trade in Information Technology Products 1996)[1]

In Intellectual Property, Human Intelligence is the main reason for the production of new inventions and original creative works throughout the human history. It is a norm that inventions are created by human. It is also a norm that creative works are created by human.

As technology improves, new phenomenon emerges. Non-human, Machine Intelligence[2] or Artificial Intelligence have shown the capability of creating intellectual property goods. It is now a new norm that Artificial Intelligence also contributes to the production of intellectual property goods such as original unusual artistic work, musical work and patentable invention which are promoting innovation and creativity.

An online search on the 'treaty on technology' revealed that the WTO Information Technology Agreement 1996 is the international plurilateral agreement on the tariff rate control on information technology products. At present, there is no reference or recognition of the artificial intelligence in any of the existing international treaty/agreement. Perhaps the time for the formulation of an international agreement which gives recognition to the artificial intelligence's contribution to the production of intellectual property goods has arrived.

This paper will briefly highlight the issues on artificial intelligence, artificial intelligence generated work/invention and the proposal on the intellectual property policy and other related issues. Present in this paper too are the author's findings, opinions and suggestions for consideration.

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[1] World Trade Organization, 'Ministerial Declaration on Trade in Information Technology Products' accessed at https://www.wto.org/english/docs_e/legal_e/itadec_e.htm on 8 January 2020
[2] In computer science, Artificial Intelligence is called as Machine Intelligence accessed at https://en.wikipedia.org/wiki/Artificial_intelligence on 2 February 2020

2. PAPER STRUCTURE

3. Glossary of Relevant Words

4. Issues:

Issue 1   : Authorship & Ownership / Inventorship & Ownership

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Issue 15   : System of Deposit For Artificial Intelligence Algorithm & System of Deposit For Artificial Intelligence Work/Invention

5. Closing Remarks

3. GLOSSARY OF RELEVANT WORDS

'Artificial Intelligence' in this paper means intelligent software capable of creating work such as artistic work and musical work and capable of inventing invention. Artificial Intelligence itself is an intellectual property that can create new intellectual property goods (artistic works, musical works and inventions).

'Artificial Intelligence Author/Inventor' in this paper means artificial intelligence that generates intellectual property goods (artistic works, musical works and inventions) which is the author/inventor of the intellectual property goods.

'Artificial Intelligence Owner' in this paper means the proprietor of the Artificial Intelligence. The proprietor of the Artificial Intelligence owns both the Artificial Intelligence and the Artificial Intelligence Generated Work/Invention. The proprietor can also be a company or an association.

'Artificial Intelligence Generated Work' in this paper means works such as artistic work/s and musical work/s created by Artificial Intelligence.

'Artificial Intelligence Generated Invention' in this paper means invention/s created by Artificial Intelligence.

'Work' in this paper means artistic work and musical work.

'Intellectual property goods' in this paper means artistic works, musical works and inventions.

'Paris Convention 1883' is the Paris Convention for the Protection of Industrial Property 20 March 1883.

'Berne Convention 1886' is the Berne Convention for the Protection of Literary and Artistic Works 9 September 1886.

4. ISSUES

ISSUE 1: AUTHORSHIP & OWNERSHIP / INVENTORSHIP & OWNERSHIP

In the recent years, Artificial Intelligence has shown evidences that it can create artistic works, musical works and inventions. One may already realize that Artificial Intelligence can be individually named and for this reason Artificial Intelligence is capable to be identified as the author or inventor. An example of this is the Google's Deep Dream,[3] a software which can generate artistic work and Amper Music,[4] a software which can generate musical work.

Article 4*ter (Patents : Mention of the Inventor in the Patent)* of the Paris Convention 1883 states *'The inventor shall have the right to be mentioned as such in the patent'*. Artificial Intelligence is already the creator and inventor.

Artificial Intelligence however cannot own the work and the invention it has created simply because it is non-human, incapable of controlling or dealing with the work or invention it has created. Artificial Intelligence can create but cannot own work or invention. This problem can be solved by recognizing that the Artificial Intelligence is the Author/Inventor whilst the human owner of the Artificial Intelligence is the Owner of the work or invention. The human owner of the Artificial Intelligence is capable to deal with the work or invention that is created by an Artificial Intelligence.

ISSUE 2: TYPES OF ARTIFICIAL INTELLIGENCE

The WTO Information Technology Agreement enlisted the types of information technology goods in Attachment A, Section 1 and Attachment A, Section 2. By referring to this Agreement, should or can Artificial Intelligence software/s be identified and enlisted the same way in an international treaty/agreement on artificial intelligence?[5]

ISSUE 3: ARTIFICIAL INTELLIGENCE AS A SEPARATE LEGAL ENTITY

In light of the Company law legal principle, a company duly registered evidenced from its certificate of incorporation, from the date mentioned in the certificate of incorporation is a body corporate bestowed with corporate personality.[6] A fundamental attribute of corporate personality is that a registered company is in law a separate legal entity distinct from its members and

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[3] Alex Rayner. 'Can Google's Deep Dream become and art machine?' accessed at
https://www.theguardian.com/artanddesign/2016/mar/28/google-deep-dream-art on 24 March 2018
[4] David Pouge, 'Is Art Created by AI Really Art?' accessed at
https://www.scientificamerican.com/article/is-art-created-by-ai-really-art/ on 24 March 2018
[5] Information technology goods can be separated like the hardware goods and the software. Can software be referred to as software goods?
[6] Shanty Rachagan, Janine Pascoe and Anil Joshi, *'Concise Principles of Company Law in Malaysia',* Malayan Law Journal, 2005, page 19

controllers[7]. In Malaysia, this principle is in the case of Sunrise Sdn Bhd v First People (M) Sdn Bhd & Anor [1996] 3 MLJ 533 where Judge Chong Siew Fai of the Federal Court said:

"We are in complete agreement with the basic principle of the fundamental attribute of corporate personality, i.e. that the corporation is a legal entity distinct from its members, be they individuals or corporate bodies, a principle firmly established since Aron Salomon v A Salomon & Co Ltd [1897] AC 22."

Artificial Intelligence had already shown evidences that it can create and invent intellectual property goods such as artistic work, musical work and patentable inventions which may fulfill the requirements of the copyright law (original and materialized into a material form) and the patent law (novel, non-obvious & industrially applicable). For the reason that Artificial Intelligence can already autonomously create and invent intellectual property goods, Artificial Intelligence can maybe be recognized as a separate legal entity distinct from the Artificial Intelligence Human Owner since we already did not hesitate to name the Artificial Intelligence as the *de facto* creator and inventor confirming Artificial Intelligence's existence.

The legal status of an Artificial Intelligence is however very very limited and needs to be clearly determined and understood. At this stage where no policy is in place and there is a need for a thorough understanding, it is submitted that Artificial Intelligence may only be named as the Author but it is lacking the capacity or capability to deal with the intellectual property goods it has created nor can it sue or be sued unlike the company, body corporate or the corporation. Artificial Intelligence need human to deal with the intellectual property goods when the situation arises.

ISSUE 4: ENFORCEMENT OF ARTIFICIAL INTELLIGENCE WORK/INVENTION

The human owner of the Artificial Intelligence can enforce his ownership right to the Artificial Intelligence's work/invention in the event if infringement occurs. The Artificial Intelligence human owner can control and exploit the Artificial Intelligence generated work/invention.

ISSUE 5: COMPUTATION OF COPYRIGHT AND PATENT/UTILITY INNOVATION DURATION

At present, there is no policy on the protection duration for Artificial Intelligence Generated Work/Invention. It is suggested that the protection duration is 50 years of copyright protection, 20 years of patent protection and 10 years of utility innovation protection for the Artificial Intelligence Generated Work/Invention.

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[7] Ibid

ISSUE 6: MORAL RIGHT

Can Artificial Intelligence possess moral right? Should the policy make it compulsory for the attribution of authorship/inventorship and ownership of the Artificial Intelligence Generated Work/Invention?

ISSUE 7: LIMITATIONS & EXCEPTIONS

It is submitted that the policy on the limitation and exception of the Artificial Intelligence Generated Work/Invention to be similar with the existing copyright and patent limitation and exceptions for example for the purpose of doing research, private study, criticism, teaching purpose and Government use subject to the correct/compulsory attribution of artificial intelligence being the creator of the work/invention.

ISSUE 8: DISQUALIFICATION

It is submitted that works and inventions generated by Artificial Intelligence that does not meet the requirements under the copyright law and patent law are disqualified. The work and invention must fulfill the legal requirements of copyright and patent law.

ISSUE 9: PUBLIC DOMAIN & PERMISSION

Figure 1 and Figure 2 below shows the present situation where **Artificial Intelligence creations co-exists with human creations** which may either be in the public domain or intellectual property domain (copyright & patent/utility innovation).

Figure 1
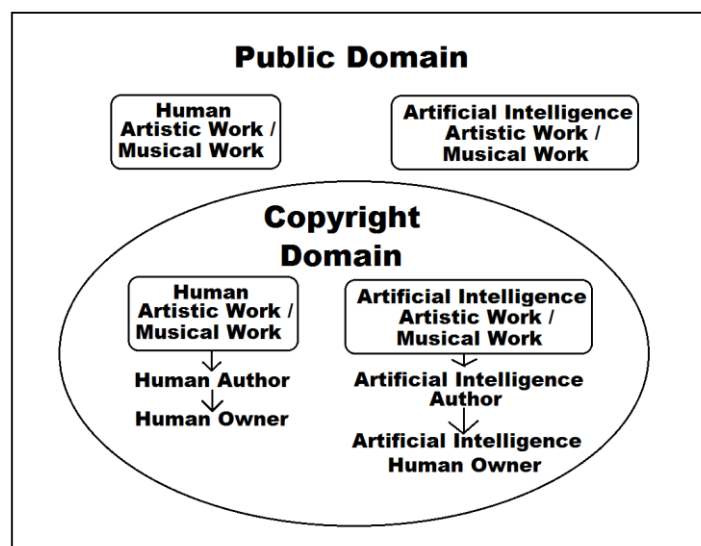
Figure 1 Explanation: Permission from the human owner needs to be applied for both the human artistic work / musical work and the artificial intelligence artistic work / musical work as it is in the realm of copyright domain. It is submitted that Copyright subsists upon creation once an Artificial Intelligence artistic work / musical work fulfills the legal requirements of the copyright law i.e. original and materialized into a physical or digital form.

Figure 2
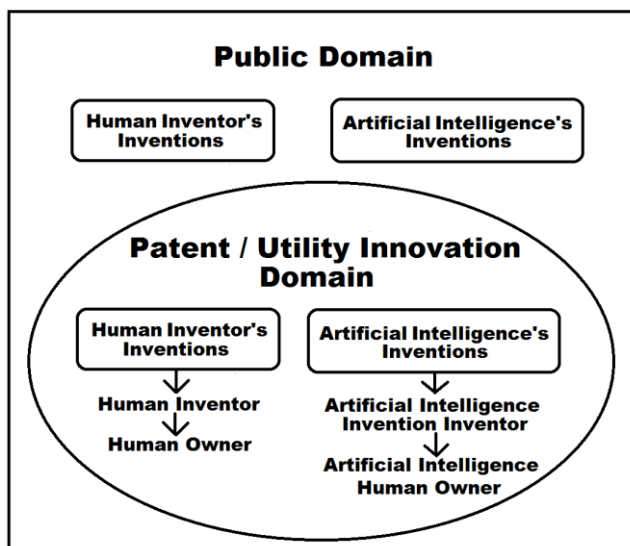
Figure 2 Explanation: Permission from the human owner needs to be applied for both the human invention and the artificial intelligence invention as it is in the realm of patent's / utility innovation's domain. Inventions are in the Patent / Utility Innovation Domain once the inventions fulfills the legal requirements of patent law i.e. novelty, inventiveness and not obvious and industrially applicable and most importantly are granted / approved by the State.

Question:

Intellectual property produced by both human and artificial intelligence can be owned by legal entity such as the human, company, association, country/state.

At this stage, can artificial intelligence also owns the intellectual property goods it has created? A human owner ('Artificial Intelligence Human Owner') can gives permission and deals with the intellectual property goods. At the time of writing this paper, Artificial intelligence needs human to give permission and deal with the intellectual property goods if the situation arises.

Legal entity like the company involves human members and human staffs which can gives permission and deals with the intellectual property goods that the company has created or owns. If artificial intelligence is recognized as 'a legal entity' (for example as the author but not the owner/as the author and the owner), who will be giving the permission and deals with the intellectual property goods created by artificial intelligence? Just like the legal entity: the company, Artificial intelligence also needs human to give permission and deals with the intellectual property goods if the situation arises.

The answer would maybe by naming a human owner as the 'Artificial Intelligence Human Owner' in connection with the intellectual property goods produced by Artificial Intelligence for example:

Artificial Intelligence Human Owner   : Mr Adam Knight
Artificial Intelligence Author   : Arto Millenium Software
Artistic Work Title   : The Present Success

Now, the following example already existed:[8]

Artificial Intelligence Company Owner   : Google
Artificial Intelligence Author   : Deep Dream
Artistic Work   :
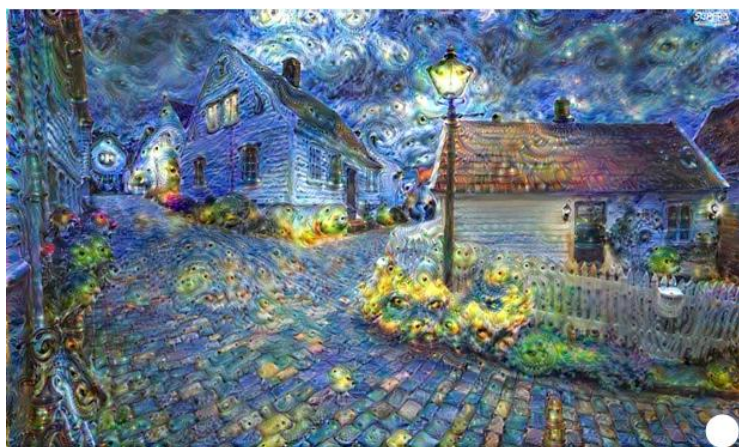
The above image created by Google's Deep Dream

ISSUE 10: INTERNATIONAL IP POLICY ON ARTIFICIAL INTELLIGENCE

Artificial Intelligence needs to be recognized as the author/inventor under the law having regard that Artificial Intelligence already has the capability to contribute to the production of intellectual property goods just like the human creator/inventor.

The IP policy on Artificial Intelligence needs to be determined at the international level and at the national level. The IP policy on Artificial Intelligence needs be determined at the international level by creating a treaty/international agreement that sets out the IP policy on Artificial Intelligence creations/inventions.

To do this, Article 19 of the Paris Convention for the **Protection of Industrial Property** states *'It is understood that the countries of the Union reserve the right to make separately between themselves special agreements for the protection of industrial property, in so far as these agreements do not contravene the provisions of this Convention'*. It is the aim of the Paris

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[8] Alex Rayner. 'Can Google's Deep Dream become and art machine?' accessed at https://www.theguardian.com/artanddesign/2016/mar/28/google-deep-dream-art on 24 March 2018

Convention 1883 to protect industrial property which may includes Artificial Intelligence Generated Work/Invention.

Article 20 of the Berne Convention for the **Protection of Literary and Artistic Works** states *'The Governments of the countries of the Union reserve the right to enter into <u>special agreements</u> among themselves, in so far as such agreements <u>grant to authors</u> more extensive rights than those granted by the Convention, or contain other provisions not contrary to this Convention. The provisions of existing agreements which satisfy these conditions remain applicable'*.

Perhaps, the time for the **WIPO Treaty on the Protection of Artificial Intelligence Intellectual Property** has arrived.

ISSUE 11: CAPACITY BUILDING OF GOVERNMENT PERSONNEL

Government Personnel in the IP Offices, technology officers, judges needs to attend trainings and discussions on the new Patent, Utility Innovation and Copyright Policy on Artificial Intelligence Generated Work/Invention.

ISSUE 12: BUILDING AWARENESS ON ARTIFICIAL INTELLIGENCE'S INTELLECTUAL PROPERTY

The media needs to be engaged to build the public awareness on:

(i) IP Policy on Artificial Intelligence Generated Work/Invention;

(ii) Artificial Intelligence information in general, the types and its capability;

(iii) Artificial Intelligence contribution to the production of intellectual property goods;

(iv) Highlighting Artificial Intelligence's work and invention examples; and

(v) Relevant matters on Artificial Intelligence.

ISSUE 13: COMMERCIALIZATION & EXPLOITATION OF ARTIFICIAL INTELLIGENCE GENERATED INTELLECTUAL PROPERTY

Recognizing that Artificial Intelligence is the author/inventor, it is proposed that the Artificial Intelligence Human Owner is the party that can commercialize and exploit the intellectual property goods generated by Artificial Intelligence.

ISSUE 14: TRANSMISSION & LICENSING

Analysis on the issue of transmission of Artificial Intelligence work/invention by way of:

(a) operation of law;

(b) testamentary disposition;

(c) transfer, assignment;

revealed that <u>Artificial Intelligence itself is an Intellectual Property</u>. Artificial Intelligence is an intellectual property produced by a human creator/Artificial Intelligence Human Owner. Artificial Intelligence is the software which is a computer program used in a computer/machine. On a different point, Artificial Intelligence work/invention can be passed on by the Artificial Intelligence Human Owner. It can also be licensed by the Artificial Intelligence Human Owner.

ISSUE 15: SYSTEM OF DEPOSIT FOR ARTIFICIAL INTELLIGENCE ALGORITHM & SYSTEM OF DEPOSIT FOR ARTIFICIAL INTELLIGENCE WORK/INVENTION

Valuable Artificial Intelligence algorithms and Artificial Intelligence softwares should be recorded to document, develop and enriching the human knowledge on Artificial Intelligence capabilities. Not only valuable Artificial Intelligence algorithms and softwares are kept in the public depository, the creations made by Artificial Intelligence should also be recorded, documented and developed enriching the human knowledge on Artificial Intelligence Generated Work/Invention.

5. CLOSING REMARKS:

Artificial Intelligence is now the creator and the contributor to the production of intellectual property goods. Artificial Intelligence and the new types of intellectual property goods generated by Artificial Intelligence deserve our attention.

[END OF SUBMISSION PAPER]

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