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### **Artificial Intelligence and its impact on Intellectual Property Law**

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#### **Abstract**

Artificial Intelligence is a unique technological development that has an intense impression on the world. It alters business fashion from autonomous vehicles to medical diagnosis and advanced manufacturing as Artificial Intelligence is the step further from the theoretical realm to the global marketplace for benefits. Developed countries like the US, Japan, China, and others are leading in Artificial intelligence patenting and copyright activities. Machine learning and its applications in human life impressively enrich the users' experience and productivity. It is anticipated to transfigure the process across the globe. However, this evolving field has greater benefits and moves the world toward more success and prospects. Still, it crafts so many legal challenges that impact intellectual property laws, principally patents, copyrights, and their management, which are very complex and need to be addressed. It excessively influences the right of protection and the inventor's concept in the domain of intellectual property. World Intellectual Property Organization is striving to modify the existing laws for AI regulation and its further development. Inventions have been traditionally protected by a system of intellectual property laws of which patents are at heart. AI is not just a new source for creative work; they are also

crucially depended upon to access the work created by others. This article explores Artificial Intelligence's development and its impact on IP laws.

### **Keywords**

Artificial Intelligence, Patent and Copyright Laws, Legal Reforms.

### **Introduction**

Artificial Intelligence performs better, faster, and more efficiently than human intelligence in targeted, limited domains. It emerged in the mid of the twentieth century. It made appreciated achievements and significant progress for numerous years.<sup>1</sup> There is no precise definition of AI; however, Professor John McCarthy, known as the father of AI, tried to conceptualize it as: "The science and engineering of making intelligent machines, especially intelligent computer programs."<sup>2</sup> In the recent past, AI was geared more towards development in chess-playing machines, autonomous driving, face and speech recognition, translation, and autonomous writing (e.g., for stock exchange reports and sports news). Still, today, AI is stretching its wings and embracing every field possible. IBM's Watson and Google's Deep Mind can diagnose human diseases, to develop diagnostic methods and pharmaceutical substances for therapy. The current application of AI also includes text analysis, natural language processing, logical reasoning, game playing, decision support system, data analytics, predictive analytics, autonomous vehicles, and other forms of robotics.

In China, AI is used to support the coronavirus pandemic that has affected the entire world since the beginning of 2020. China was the first epicenter of this disease, using its renowned technological advancement to overcome this grave issue within a short time, as equated to others. AI has been quite extensively used in support of mass surveillance policies in China, where devices have been used to measure temperature and recognize individuals or to equip law enforcement agencies with smart helmets capable of flagging individuals with high body temperatures.<sup>3</sup> This has great influence in each form of innovation and is escorting the world to further technological development in every field of life that is the root of countless legal issues in the arena of intellectual property.<sup>4</sup> The World Intellectual Property Organization (WIPO) Director General Francis Gurry in a press release announcing the report's recent launch in Geneva, contended:

AI's ramifications for the future of human development are profound, but

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<sup>1</sup> Andreas Rahmatian, "Originality in UK Copyright Law: The Old "Skill and Labour" Doctrine under Pressure", *IIC - International Review of Intellectual Property and Competition Law* 44, no. 2 (2013) 34. <https://doi.org/10.1007/s40319-012-0003-4>.

<sup>2</sup> <http://jmc.stanford.edu/artificial-intelligence/what-is-ai/index.html>.

<sup>3</sup> Faltings, P. B, In future it will be possible to detect diseases from data collected by wearable sensors, and to suggest optimal treatments to prevent these diseases from developing. World Intellectual Property Organization, *WIPO Technology Trends 2019 - Artificial Intelligence*, (WIPO, 2019), 30. <http://www.wipo.com>.

<sup>4</sup> Müller, V. C., "Ethics of Artificial Intelligence and Robotics", *Stanford Encyclopedia of Philosophy* 30, no.4 (2020), 5. <https://plato.stanford.edu/entries/ethics-ai/>.

it is because of legal and regulatory challenges in understanding artificial intelligence. An important problem is the ownership concept of Patent products and copyright creation. For this purpose, the developed countries are trying to amend their laws of IP related to the concept of ownership.<sup>5</sup>

Conversely, to sidestep further challenges, the European Patent office precluded the application of filing patents by the name of the inventor as artificial intelligence on the cause that artificial intelligence cannot meet the international standards of a natural person.<sup>6</sup> To overcome these challenges, WIPO issued some guidelines for the alteration of laws apropos patent and copyright concepts.<sup>7</sup>

In 2017, the State Council of China released the country's strategy for artificial intelligence titled "New Generation Artificial Intelligence Development Plan." This was a vital step in the memoir of science and technological advancements in China. It sets out strategic aims at the national level of legislation for AI development.<sup>8</sup> In contrast, the US took the initiative for the advancement and protection of AI in February 2019 and recommended regulatory principles for regulations and investment in the field of AI.<sup>9</sup> Established countries are getting initiatives for the development of a legal framework which can regulate the artificial intelligence in apt ways. They are trying to recognize the ownership concept of Intellectual Property concerning artificial intelligence. These attempts to modify intellectual property laws result from challenges faced by the countries, which need to be prudently assessed and addressed.

### **Research Methodology**

This study based on research articles about artificial intelligence, intellectual property laws, guidelines of the World Intellectual Property Organization in relation to AI, reports that present the uses of AI in developed and developing countries, reports from the governmental organizations that debate how to resolve legal issues regarding AI, and court judgments. Material gathered by using the analytical and qualitative research methods to address the study's research question. For the purpose of performing this research, a comparative analysis of the legal frameworks of developed and developing countries were also completed.

### **Result**

The current legal framework in both developed and developing countries

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<sup>5</sup> "WIPO Conversation on Intellectual Property and Artificial Intelligence", WIPO WIPO/IP/AI/2/GE/2 0/1REV: (2020 May 21,). 20, <https://www.wipo.int/edocs/mdocs/mdocs/en/wipo>.

<sup>6</sup> Decision to refuse two patent applications naming a machine as inventor, EP 18 275 163, and EP 18 275 174 (European Patent Office January 28, 2020). <https://www.epo.org/news-events/news/2020/20200128.html>.

<sup>7</sup> Vertisky, L. *Research Handbook on the Law of Artificial Intelligence*, chapter 18, Thinking Machines and Patent Law (Edward Elga publishing, 2018),509. ISBN: 9781786439048.

<sup>8</sup> China, S. c. State Council's Plan for the Development of New Generation Artificial Intelligence, No.17, Ministry of Science and Technology China. (2017). <http://fi.china-embassy.gov.cn/eng/kxjs/201710/P020210628714286134479>.

<sup>9</sup> House, U. S. The Executive Order. Official White House: (2019, February 1). <https://www.whitehouse.gov/ai/executive-order-ai/>.

needs to be examined. The challenges posed by technological development can be overcome by the adoption of a proper legal system in advanced countries. These challenges can also be expected to the struggling countries in near future. Therefore, it is argued that the work created by AI should be considered human property in reference to its financial benefit, and AI can be considered the copyright and patent holder of the work. So the human is the beneficiary of innovation, and the AI is considered the inventor or creator of the work. If we place the work created by AI in the full domain of AI, then it can result in further legal issues. To avoid a legal issue, the same cannot fall under the domain of the public or humans

### **Concept of Ownership in Intellectual Property Law**

Intellectual property is created and recognized by intellectual property laws, including copyright, patent, trademark, and trade secret. It is ordinarily identified as an intangible property.<sup>10</sup> Which, like tangible property, also has rights attached to it. These rights empower the creators or owners to benefit from this intangible property through incentives, etc. These rights are also listed under Art. 27 of the United Declaration of Human Rights, which provides that the creator of IP has the right to benefit from the protection of their interest resulting from scientific, artistic, or literary productions. Intellectual property was originally recognized in the "Paris Convention for the Protection of Industrial Property (1883)<sup>11</sup>" and "The Berne Convention for the Protection of Literary and Artistic Works (1886)."<sup>12</sup> The ownership rights over intellectual property go to the inventor or creator in the form of a patent and copyright. No one can get the benefit of property without the acquiescence of the patent and copyright holder.<sup>13</sup> According to Austin, ownership refers to "a right indefinite in point of the user, unrestricted in point of disposition and unlimited in point of duration."<sup>14</sup> These are the essential factors for the ownership right, which need to be deliberated upon while extending the right of ownership to artificial intelligence.<sup>15</sup> The ownership right is confined to the "natural person," which is intended to acknowledge and protect the rights of human inventors.<sup>16</sup> This protection is awarded as a result of innovation, leading to further research and development. The right of ownership is the protection of property from illegal exploitation.<sup>17</sup> This assures the inventor

<sup>10</sup> Justin Hughes, "The Philosophy of Intellectual Property", *Georgetown University Law Center and Georgetown Law Journal* 2, no. 2 (1988) 2. <https://justinhughes.net/docs/a-ip01>

<sup>11</sup> The Paris Convention for the Protection of Industrial Property, (1883).

<sup>12</sup> The Berne Convention for the Protection of Literary and Artistic Works, (1886).

<sup>13</sup> Davies, Collin. R, "An Evolutionary step in Intellectual Property Rights Artificial Intelligence and Intellectual Property", *Computer Law and Security Review*, 27, no.6 (2011), 616. <https://doi.org/10.1016/j.clsr.2011.09.006>.

<sup>14</sup> Wilson, G. P. Jurisprudence and the Discussion of Ownership. *The Cambridge Law Journal*, 15, no. 2 (1957), 216-229. <https://www.jstor.org/stable/4504463>.

<sup>15</sup> Wei Huang, & Amir Hayat, Impact of Artificial Intelligence in Enterprises HR Performance in Pakistan: A Comparison Study with Australia. *Global Journal of Management and Business Research* 19 no.A15 (2019). 55. <https://journalofbusiness.org/index.php/GJMBR/article/view/3074>.

<sup>16</sup> Amir Hayat, and Wei Huang, "Impact of Artificial Intelligence in Enterprises", 54.

<sup>17</sup> Davies, C. R. "An Evolutionary step in Intellectual Property Rights Artificial," 611.

of the reward for their hard work, expertise, and unparalleled knowledge. Nowadays, AI has brought a race for ownership rights in intellectual property among the world's leading technology companies, with an increase in the number of patent and copyright applications filed on AI's behalf. The number of AI patents increased threefold, from 708 in 2012 to 2,888 in 2016.<sup>18</sup> Is it possible for AI to fulfill the essentials of ownership rights, or only humans can enjoy those rights? The second legal issue is the concept of the "natural person," which imposes a big question for the recognition of ownership rights of AI. Due to this concept, AI's inventions result in legal challenges.

### Copyright, Patent, and AI

Copyright is a significant field of intellectual property laws, and this law also protects the work of the computer industry from infringement and unauthorized use.<sup>19</sup> The conception of new computer programs raises questions about the copyright of works created with the help of Artificial Intelligence.<sup>20</sup> AI is the efficient product of technological development that permits machines to update their application conditions with time and perform different tasks.<sup>21</sup> However, the expanding market of video games, personal computers, and small business systems is a grave threat to computer software protection.<sup>22</sup> Artificial intelligence work focuses on the discipline of computer science which performs diverse tasks that usually result from the human mind. Thus, AI is a major driver in the business and investment process and works in the form of Robot advice, AI-enabled intelligent dashboard, and predictive modeling, etc.<sup>23</sup> Certain countries, including South Africa, Hong Kong, India, Ireland, and New Zealand, provide computer-generated work protection to the person involved in the creation of copyrighted work.<sup>24</sup> Indian court held that an Artificial/ Juristic person is not capable of copyright.<sup>25</sup> In the UK, computer-generated works are defined as works "generated by computer in circumstances such that there is no human author of the work."<sup>26</sup>

In patents, the inventions, including cuisine created by smart computers,

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<sup>18</sup>Organization, W. I. WIPO Conversation on Intellectual Property and Artificial Intelligence. (2020, May 21). WIPO WIPO/IP/AI/2/GE/20/1REV: [https://www.wipo.int/edocs/mdocs/mdocs/en/wipo\\_ipai2/ge20](https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ipai2/ge20).

<sup>19</sup> Timothy L. Butler, "Can a Computer be an Author - Copyright Aspects of Artificial Intelligence," *Hastings Communications and Entertainment Law Journal*, 4, no.4 (1982). 708, <https://repository.uchastings.edu/hastings-commentlawjournal/vol4/iss4/11>.

<sup>20</sup> Jan Zibner, "Artificial Intelligence: A Creative Player in the Game of Copyright", *European Journal of Law and Technology* 10, no.1 (2016), 769-791, <https://ejlt.org/index.php/ejlt/article/view/662>.

<sup>21</sup> Natalia Opolska and Anna Solomon, "Intellectual Property Right to Objects Created by Artificial Intelligence," *Law Rev. Kyiv U.L* no.3 (2021):210. DOI: 10.36695/2219-5521.3.2021.

<sup>22</sup> Butler, "Can a Computer be an author", 745.

<sup>23</sup>Report on The next frontier for investment management firms, April 19, 2022, 9. <https://www2.deloitte.com/content/dam/Deloitte/dk/Documents/financial-services/artificial-intelligence-investmentmgmt>.

<sup>24</sup> Jane C. Ginsburg, "People Not Machines: Authorship and What It Means in the Berne Convention", *International Review of Intellectual Property and Competition Law* 49, no.2 (2018) 133. <https://doi.org/10.1007/s40319-018-0670-x>

<sup>25</sup> Tech Plus Media Private Ltd. Vs. Jyoti Janda, (2014) 60 PTC 121.

<sup>26</sup> The Copyright, Designs, and Patents Act, 1988.S 9(3).

tracking crimes, and designing the luxury automobile, are the result of artificial intelligence. There are so many other ways in which artificial intelligence is involved. For example, neural networks are engineered to mimic human brain activity to "learn" relevant information.<sup>27</sup> Computer vision, which includes image recognition critical for self-driving cars, is the most popular functional application of artificial intelligence (AI). It was mentioned in forty-nine percent of all AI-related patents and grew annually at an average rate of twenty-four percent throughout 2013-16.<sup>28</sup> Thaler filed the application for a patent on the invention of a cross-bristle toothbrush design by artificial intelligence by proving artificial intelligence's ability for the generation of the novel invention, which meets the criteria of patents<sup>29</sup>. On the other hand, the patent right on DABUS in South Africa has received critical views from intellectual property experts who argued that it is not a just and right decision in law because artificial intelligence does not possess the legal standing to qualify as an inventor.<sup>30</sup>

### Legal Analysis

This emerging field of technology seems beneficial for the public. However, at the same time, it can be harmful to IP holders because the provision dealing with the concept of inventive steps in this area created a conflict between an invention generated by a human and one created by an AI.<sup>31</sup> This is not a contemporary issue and dates back to 1974. The report of "the National Commission on New Technological Uses of Copyrighted Works (CONTU)" stated that; AI is incapable of practically creating independent work.<sup>32</sup> The "Office of Technology Assessment (OTA)" reinvestigated this matter in 1986 when it gauged the intimations of computer advancement and its impact on intellectual property. The OTA statement conflicted with CONTU and argued that AI is considered a legal co-author of copyrighted work. From then, the debate started on AI, wherein one side argues that AI cannot create as humans and others disagree on the point of creativity.<sup>33</sup> Developed countries, including China, the United States of America, and the UK, are trying to form policies for protecting inventions created by artificial intelligence. White ford Committee, responsible for reviewing the copyright and design law in the UK, rejected the concept of the non-human author in the field of copyright law based upon the relationship between employee and employer. It viewed that in the United Kingdom, the work

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<sup>27</sup> W. Michal Schuster, "Artificial Intelligence and Patent Ownership", *Washington and Lee Law Review*, 75, no. 4(2019). 1948. <https://scholarlycommons.law.wlu.edu/wlulr/vol75/iss4/5/>

<sup>28</sup> Icaza, S. K. World Intellectual Property Organization (WIPO). (2019). [https://www.wipo.int/tech/en/artificial\\_intelligence/story.html](https://www.wipo.int/tech/en/artificial_intelligence/story.html): <https://www.wipo.int/.com>

<sup>29</sup> The National Academies Press, from Patent Challenges for Standard-Setting in the Global Economy: Lessons from Information and Communications Technology, Washington, DC: National Research Council: (2013). <https://doi.org/10.17226>

<sup>30</sup> Stephen Thaler vs Vidal No. 21-2347(fed.Cir).

<sup>31</sup> State Council's Plan for the Development of New Generation Artificial Intelligence. 2019.

<sup>32</sup> Final Report, National Commission On New Technological Uses Of Copyrighted Works 4 (1978), <http://eic.ed.gov/PDFS/ED160122.pdf>

<sup>33</sup> David Gelernter, "The Muse in the Machine", 83.

generated by the employee belongs to the employer by law S39 of Patent Act, 1977, and provided the reference of S 7(2) (b) in which it is mentioned that "any person" can apply for the patent which is an enforceable term in respect of a body corporate and this section further provides that patent will be granted to an inventor who is properly defined as "the actual deviser of the invention."<sup>34</sup> It raises an argument in favor of humans that machines cannot be the actual deviser of innovation, and it works according to the given instructions of humans. The term "actual deviser" requires specifically humans, not machines. So there is no reason which satisfies the requirements for a successful application for a patent and copyright by AI.<sup>35</sup> However, the court decided in *Cummins V Bond* that the "non-human nature of the source of work should not be a bar to copyright, regardless of any independent editorial judgment being exercised in the process. This judgment is stretched by the ones in favor of AI to include registration of the work done by AI, which is also non-human in nature."<sup>36</sup>

Ms. Samuelson argued that the law does not specifically require the Human as an inventor and that the computer may be the author.<sup>37</sup> Perry and Margonia again raised this authorship debate in 2010.<sup>38</sup> It is argued that "incentive is a justification for the existence of intellectual property rights. It is not a requirement for the generation of such rights. The authors further argued that incentive must and does exist somewhere in the production chain to encourage both the continued development of these programs and the works generated there from. The lack of any need for the incentive by the author does not mean you should deny Artificial intelligence from ownership".<sup>39</sup> However, it is also argued by scholar Milde that financial awards for invention by AI should be given to humans because it is human who encouraged the invention and invested in it. However, this financial reward must recognize the machines from authorship right.<sup>40</sup>

Additionally, the Intellectual Property rights of ownership are also concerned with the quality of creation and invention, so it is also challenging whether AI can satisfy the requirements of patent eligibility and, more importantly, if AI is awarded by patent and copyright, then it would be challenging to enforce it against multiple infringers.<sup>41</sup> In agreement with the supra-mentioned proposition, it cannot be overlooked that contemporarily AI will face certain legal hurdles if a patent or copyright is granted to them. So, it seems preposterous, at this time, to consider AI for patent or copyright ownership under

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<sup>34</sup> UK Patents Act 1977, S7.

<sup>35</sup> Davies, "An Evolutionary step in Intellectual Property Right Artificial Intelligence", 605.

<sup>36</sup> *Cummins v. Bond*, (1927) 1 Ch. 167.

<sup>37</sup> Pamela Samuelson, Allocating Ownership rights in computer-generated work, *University of Pittsburgh School of Law Review* 47 (1986) 1190. <https://heinonline.org>.

<sup>38</sup> Perraya & Margonia, From music tracks to Google Maps: Who owns computer-generated works? *Computer Law and Security Review* (2010), 621. <https://ir.lib.uwo.ca/lawpub/>.

<sup>39</sup> Jeanne C. Fromer, "Expressive Incentives In Intellectual Property", *Virginia Law Review* 98, no.8 (2012), 1746. <https://www.jstor.org/stable/23333520>.

<sup>40</sup> Müller, "Ethics of Artificial Intelligence and Robotics", 12.

<sup>41</sup> Matjaz Perc, Mahmut Ozer, Hojnic, "Social and Juristic challenges of Artificial Intelligence", *Palgrave Communication* 5, no.61 (2019), 2, <https://doi.org/10.1057/s41599-019-0278>.

the present intellectual property laws. Nevertheless, at the same time, it also seems ridiculous to consider AI just as a mere tool in the hands of humans. Therefore, the middle ground between the two extremes ends is a reasonable way to settle this point. If we consider the AI as an inventor of intellectual property, which is solely the creation or invention of that AI, that can be considered a good start. In this way, the legal technicalities/ difficulties, as aforementioned, can be avoided; at the same time, the credit for an invention can be allotted to the real inventor, which is AI. Secondly, this approach resolved the difficulty of benefits and incentives of ownership. Artificial Intelligence is supported and controlled by Human inventors, and innovation is not possible without the support and control of a human. This dependency of AI also works as a clog in AI's ownership. On the same point, the report of 2018 released by the European Patent Office, US Patent and Trademark Office, Patent Office of Japan, South Korea, and China explained the summary of the roundtable debate in which it was declared that the human is only eligible for the right of ownership in the field of IP and AI is the result of human intelligence skilled. It performs under the supervision of humans.<sup>42</sup>

It is determined that invention is mostly concerned with the mental process of the inventor, but AI does not have such mental ability required to perform a task of the invention as we humans do. It is also unable to talk about the task and theoretical concept, which requires humans. According to these skills, human inventors cannot be excluded, and the ownership concept for AI is irrelevant from the perspective of intellectual property laws because it is clear that AI only performs its contribution to the invention process by the human. This incentive of ownership rights for AI disturbs the whole system of intellectual property rights, and it will establish new norms.<sup>43</sup> However, at the same time, technological developments are at their peak, and AI has started to flourish. In the near future, AI will dominate every possible act of human life, including intellectual property. Therefore, one thing is certain in the near future, the current system of IP rights will have to be changed, and new norms will have to be established. It will be a bumpy right, and the present-day legal system needs to prepare and brace itself for this rough ride. So, for the sake of preparation, we cannot outcast AI from the domain of IP rights. If today it seems difficult to consider AI's ownership rights because of legal technicalities. Nevertheless, we need to start from somewhere at this point in IP rights considering AI just for the position of the inventor can prove a good head start.

There is also a strong debate in copyright law for the concept of AI authorship. Some scholars like Stuart Russell and Peter Norvig, argues that the work created by artificial intelligence in the field of copyright is called "emergent

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<sup>42</sup>WIPO Conversation on Intellectual Property and Artificial Intelligence. WIPO WIPO/IP/AI/2/GE/20/1REV: (2020, May 21). <https://www.wipo.int/edocs/mdocs/mdocs/en/wipo>.

<sup>43</sup>The National Academies Press. Retrieved May 7, 2021, from Patent Challenges for Standard-Setting in the Global Economy: Lessons from Information and Communications Technology, Washington, DC: National Research Council: (2013). <https://doi.org/10.17226>.



works."<sup>44</sup>It expresses that this work can be copyrightable in AI's name because it is self-creation and uncontrolled by humans.<sup>45</sup> However opponent argued that the machine work is controlled by the programmer and machine can only perform work according to the instruction of programmer and cannot perform task in different way which cleared that machine do not possesses the ability of thinking and it is limited to perform specific artistic work which prove that machine lack the necessary ability of thinking which is naturally found in human and it rejected the idea that machine can think like a human and the work created by it is copyrightable. This line of argumentation is flawed and fallacious because using "Human" as a standard in law is not a good practice. It will confine the growth of law to certain narrow limits which will affect the field negatively. Secondly, on perusal of legal history, numerous cases can be found in which law deviated from this standard i.e. in case of recognizing idols, ships, and churches as a legal person. From bygone times, it seems that law is more concerned with the fact whether introduction of certain novelty in legal field is for the public good at large or not. Law, being a field always at flux, never confined itself to certain orthodox standards but it always mend its ways to keep up with the growth and changing needs of society. In this regard, recognition of corporation as a legal entity is one of the finest examples. Therefore, at present, in case of AI's authorship rights sticking to orthodox views and standards will produce no fruitful results but dismay. The proposition that AI can only function and create if a human feed them required data and thus is controlling its function. But if same argument is made in case of humans. Can humans think, create, and function without feeding them with proper data<sup>46</sup>. It seems not, they, too, feed on data before they can become able to perform the task supra mentioned. For example, a newly born baby cannot think creatively or function like an adult human. Their mind is just like a clean slate same as a newly programmed AI. With the passage of time, new born feed on data through its senses from the outer world and then it gradually began to think, and then think creatively and perform different functions. It means that human's creativity and thinking process is dependent upon the data which they receive from the outer world. So, at the very root level, human creativity and thinking processes and that of AI works on the same principles. As AI is dependent on humans for data, similarly humans are dependent on the outer world. Now, in case of control, it is true that AI is controlled by the humans but what about humans? Are they not controlled? Do they think freely? There are lot of controlling factors in case of humans too. Humans are controlled by their past experiences, friend circle, societal norms and customs, books they read,

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<sup>44</sup> Stuart Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach* (Scotts Valley: Create space Independent Publishing Platform, 2016), 4.

<sup>45</sup> Dr. Hayleigh Boshe, WIPO Impact of Artificial Intelligence on IP Policy Response from Brunel University London. Law School & Centre for Artificial Intelligence, Brunel University London. (2019). [https://www.wipo.int/export/sites/www/about-ip/en/artificial\\_intelligence/call\\_for\\_comments/pdf/org\\_brunel](https://www.wipo.int/export/sites/www/about-ip/en/artificial_intelligence/call_for_comments/pdf/org_brunel).

<sup>46</sup> Here the word "Data" is used in the wide sense possible and its meaning is not just confined to domain of computing and robotics.

environment and numerous other factors. Thus, both human and AI's thinking and creativity is controlled by external factors even though the ways of controlling in both cases are different but the net result is same. Similarly, the argument that AI cannot think because they cannot think the way humans do therefore they cannot create and be creative. This argument does not hold ground because it is same as if someone says that plants are not living beings because the way they grow and breath are different from other animals. It is the weakest argument possible because plants and animals are different kind of beings. Each having its unique characteristics and thus cannot be compared with other. Similarly, AI and humans are poles apart and distinct kind of entities. The ways they work and function are different. As plants and humans both breathe/respire but their ways of breathing are quite different from each other. Similarly, thinking is a process found both in AI and humans but the ways/process of thinking are different from each other's. Therefore, comparing AI with humans in this respect is not a good and scholastic approach. Now, why AI cannot be considered for the authorship rights in a creative work. It is not because of the reasons as stated above by some scholars. But the main hurdle in the way is that of inadequacy of the present day laws. Laws are not advance and good enough to deal AI as copyright holders. Solely because of this reason it is suggested that AI should not be considered for authorship rights and the same must be vested in the owner of the AI. In this way we can avoid legal technicalities and legal dead locks. But at the same time it is also suggested that the laws has to be evolved and changed with quite fast pace because the former suggestion is just a temporary solution and not the permanent one. The authorship right is the part of civil law system which protects the personality of the inventor / author with respect to their work. Personality arises by the ability of creation and level of work originality and that is a factor which exclusively belongs to human being.<sup>47</sup> According to the Court of Justice of the European Union ("CJEU"), "a work is considered original when it is the expression of the author's own intellectual creation and his/her free creative choices, the author's personality, or the author's personal touch."<sup>48</sup> Some legal scholars viewed that according to the law the artificial intelligence is not eligible for the copyright protection

The European Parliament recently passed a motion for the regulation of existence of robots with humans. It included the aspects of acquisition of legal status of robots which leads to the universal acknowledgement of artificial intelligence authorship and patentability right. Para 59 of the motion states:

"Creating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may

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<sup>47</sup> Ginsburg Jane C, "People Not Machines: Authorship and What It Means in the Berne Convention", *IIC - International Review of Intellectual Property and Competition Law* 49, (2018), 133, <https://doi.org/10.1007/s40319-018-0670>.

<sup>48</sup> *Football Dataco Ltd and others v. Yahoo! UK Ltd and others*, 1 March 2012 (Case C-604/10).

cause, and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently."<sup>49</sup>

Robots cannot be considered like humans due to lack of soul, interest, expressions, feelings, and intentionality among other things, so it is unnatural to grant a legal personality to AI. They are the creation of humans and they can be modified according to the requirements of their performance. In relation to the question of liability on AI, the Resolution 2015/2103 (INL) of the European Parliament of 16 February 2017 provides recommendations to the European Commission on the civil procedure that it is difficult to enforce the liability against AI in favor of aggrieved party. In this situation it will be compensate by so-called agent, operators manufacturers, owners or users.<sup>50</sup> This research shows that there is need for the adoption of proper legislation for the regulation of AI and innovations with the help of AI both in developed and developing countries which declared that AI is controllable by humans.<sup>51</sup> The existing laws are not giving proper guidance on the current issues. The Next Generation Artificial Intelligence Development Plan of China deals with the initiative of developing legal framework for regulations of Artificial Intelligence. China also launches the technology development at first without working on the need of updating their legal system.<sup>52</sup>

On the other hand developing countries like India and Pakistan are not efficient in the field of technology, are still at nascent stage. The IP violations are already at highest level and laws are not efficiently implemented.<sup>53</sup> The actual development of a country depends upon the strong legal system which is very weak in struggling countries. Moreover, the developing countries are not in the position of following developed countries strategic of laws created and implemented by developed countries.<sup>54</sup> These countries needs legislation according to their own requirement. The Pakistan Patent Ordinance, 2000 and the Copyright Ordinance, 1962 are similar to the US and UK statutes. S 11 of the ordinance provides a list of Person who become an inventors is only limited to humans.<sup>55</sup> As the technological development is at native stage in Pakistan and the Patent and copyright office has not received any application for the inventor ship of AI.<sup>56</sup> However, it can be expected in near future. So, the Pakistan should take

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<sup>49</sup> European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)), Official Journal of European Union, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017IP0051&rid=9>

<sup>50</sup> Resolution 2015/2103 (INL) of the European Parliament of 16 February 2017

<sup>51</sup> Jewel, C. (2019, February 21). Eurasian Patent Office set to extend the scope of its operations. Retrieved May 7, 2021, from WIPO Magazine, Patent Family Artificial Intelligence Boom: <http://www.wipo/magzine.com>.

<sup>52</sup> Weiwei Han and Xiaojun Guo IP Protection In China: New Policies And Changes. *Asia Pacific Journal* (2019) 1-27.(n.d.)<https://www.mondaq.com/china/patent/775646/ip-protection-in-china-new-policies-and-changes>.

<sup>53</sup> Gulam Murtiza, Ghous Muhammad, "The Implementation of Intellectual Property Laws in Pakistan- Impediments and Suggestions for Solutions", *Journal of Pakistan Vision* 20,no.1 (2019),4, <https://www.prdb.pk/article/the-implementation-of-intellectual-property-laws-in-pakistan-6120>.

<sup>54</sup> Farzana Noshab, "Intellectual Property Rights: Issues and Implications for Pakistan", *Strategic Studies* 21, no. 2 (2001),65,<https://www.jstor.org/stable/45242255>.

<sup>55</sup> Patent Ordinance 2000, Section 11

<sup>56</sup> Intellectual Property Organization, Patent Application List, Available at: <https://ipo.gov.pk>.

some initiatives to avoid such type of situation in future.

The legal framework of Intellectual property created or innovated with the help of AI is in its infancy in developed countries. Currently, both developed and developing countries have not properly regulatory legal system for the AI. The technological advanced countries framed some guidelines that up to some extent regulates the subject of work created with the help of AI. In the case of recognition of AI's ownership right over creation with the help of AI giving artificial intelligence the legal status of personality which seems controversial and not entirely correct, because AI is not able to use the benefit of copyright and patent. It is also not able to bear the liability for damages caused by the created object to the third person.

### **Conclusion**

It is concluded that WIPO is getting initiatives for the resolution of intellectual property rights regarding AI and allowing it as a subject of protection like humans. It is a new field of technological development and progressing further, which also leads to numerous novel and complex legal issues. Currently there is a lack of proper policy to smoothly resolve these issues. Developed countries are trying to amend the existing IP laws which are not proper for the regulation of this emerging field. The challenges posed by the current time may be overcome by the proper adoption of legal reforms and new approaches. If we talk about patent and copyright in case of artificial intelligence there are three possibilities: one is that the innovation and generated work belongs to no one because AI is not a subject of law. The second possibility is that it belongs to the programmer, and the third is that it should belong to the machine operator and it is defendable by the human beings under their legal capacity. However the current laws need reforms for the proper regulation of AI innovations and creations but currently it cannot be given a separate status where it can only be regulated under the supervision of human inventors. Only an independent human-agent relationship or a combination of this with a labor relationship can work in order to smooth regulation of ownership right.

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