
ABSTRACT

With the help of the primary tool of Law and Economics, this study tries to attempt to reach a conclusion regarding the Patent Rights for the inventions by Artificial Intelligence (AI) with only significant or no intervention in such innovation in the present times when no Law acknowledges an Artificial Intelligence as the inventor. Coase Theorem for maximizing social welfare surplus by mutual bargaining in an environment where property rights are openly assigned, transaction costs are minimal, property rights are explicitly allocated, and transaction costs are insignificant. On the other hand, the second assumption is that transaction costs can be reduced to the extent that the impacts of a satisfactory Coase Theorem condition are minimized in the actual world. For the most part, however, the theory is used in the context of negative externalities. Still, in the present world of Artificial Intelligence technology, the theorem is used in the context of positive externalities. The document proposes, on this basis, that efficiency should be achieved more effectively with the efficient grant of patent rights of parties who use Artificial Intelligence for invention. Those parties value these patents the most and maximize the overall welfare by assessing their rights. Therefore, as per the findings of the study report, enabling enterprises that use Artificial Intelligence to innovate new technologies to acquire the following patents (rather than software companies, programmers, or downstream parties) is the most effective method for the future.

Keywords: *Artificial Intelligence, Coase Theorem, Technology, Intellectual Property, Patents*

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Introduction

The tremendous progress in technology over the recent decades caused innovation to be fostered in products and services, ranging from various forms of arbitration industries¹ to legal questioning.² One of the significant developments that need focus is the evolution of Artificial Intelligence (AI). The term “artificial intelligence” was coined by John McCarthy in 1955 in a research proposal that identified AI as an issue of compliance with a machine in ways which would be called intelligent if people were so compelled. Analysts believe that it is only a short time until AI is responsible for most of the inventions in various industries.³

AI has raised some fascinating questions and discussions in intellectual Property. Some open-ended issues have been left unanswered by AI's patentability of inventions, proprietary inventor-ship problems and the lack of reasonable rules and standards. This raises the question of how to treat the patent system with computers with a human commitment only that are not sufficiently committed to identifying a human inventor (AI inventions).⁴ The main instrument of law and economics used in this Research Paper is the application of the Coase Theorem⁵, which provides for maximizing aggregate surplus through inter-trading transactions where the rights to Property are allocated, and transaction costs are zero.⁶

This article has been addressed in five different parts. Part 1 introduction of the topic and the background. Part 2 deals with AI's legal and economic aspects in the present scenario. Part 3 addresses the importance of Patent values regarding AI Inventions and the necessity to register these inventions under the suitable candidate/s. Part 4 is regarding applying Coase Theorem to understand the accurate valuation of AI Invention in the market and set the idealized Coasean Efficiency. Part 5 deals with addressing the Coase Theorem in reality and granting the Patents rights to the party who values the most AI Invention, i.e., the AI users who use AI for new inventions as they step into the market.

¹ Chikhaoui E and Mehar S, *Artificial Intelligence (AI) Collides with Patent Law*, Journal of Legal, ETHICAL AND REGULATORY ISSUES (2020).

² *Id.*

³ Ryan Abbott, *I Think, Therefore I Invent: Creative Computers and the Future of Patent Law* B. C. L. REV. (2016).

⁴ Charlotte Walker-Osborn & Christopher Chan, *Artificial Intelligence and the Law*, 59(1) IT NOW 36-37 (2017), <http://dx.doi.org/10.1093/itnow/bwx017>.

⁵ James W Bowers, *The Elementary Economics of Bijuralism: A First Cut* 52 (1/2) J' LEGAL EDUC. 68-74 (2002).

⁶ Jeanne L. Schroeder, *The End of the Market: A Psychoanalysis of Law and Economics*, 112(2) HARV. L' REV. 483-558 (1998).

Changing Aspects of Patent Law with AI Inventions

Changing Law and Economics with an infusion of AI

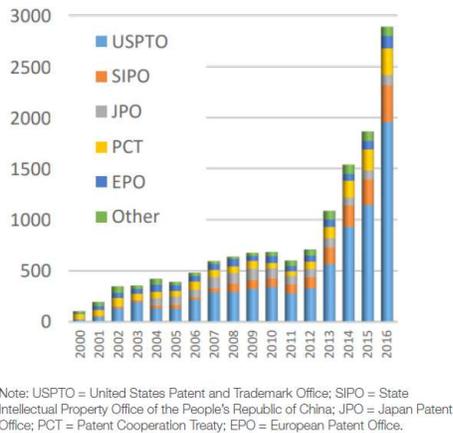
With the coming age of powerful tools such as Artificial Intelligence (hereinafter “AI”), we can also foresee changing dynamics of Law and Economy with this. According to a September 2018 analysis by the McKinsey Global Institute on the impact of AI on the global economy, Artificial Intelligence has the potential to contribute 16 per cent, or over \$13 trillion, to current global economic output by 2030. An annual average contribution to productivity growth of roughly 1.2 per cent between now and 2030.⁷

With AI infiltration in businesses, they are also in the race for Patents Rights, and Intellectual Property (IP) Rights with their invention, without any human intervention. Figure 1: Trends of Patents granted to the invention with the help of AI by countries. (2000-2016) (number of items) shows the number of Patents granted to the invention involving AI or the invention by AI. Some innovations by AI without any human intervention are: Creative Machine, Invention Machine, BrainBox AI and many more as the list is inexhaustible. AI such as Cloems, AllPriorArt and Specifio are a new spectrum where AI also invents the patent-drafting technologies.⁸ This poses a dire issue to address, such as: Should these AI inventions be Patented? If yes, under whose name these Patent Rights should be registered?

Figure 1: Trends of Patents granted to the invention with the help of AI by countries. (2000-2016) (number of items)

⁷ Irving Wladawsky Berger, *The Impact of Artificial Intelligence on the World Economy*, THE WALL STREET JOURNAL (Jan. 31, 2022, 09:08 AM), <https://www.wsj.com/articles/the-impact-of-artificial-intelligence-on-the-world-economy-1542398991>.

⁸ White Paper, *Artificial Intelligence Collides with Patent Law*, WORLD ECONOMIC FORUM 1, 6 (2016), http://www3.weforum.org/docs/WEF_48540_WP_End_of_Innovation_Protecting_Patent_Law.pdf.



[Source: Hidemichi Fujii and Shunsuke Managi, “Trends and Priority Shifts in Artificial Intelligence Technology Invention: A global patent analysis”, Research Institute of Economy, Trade and Industry, Discussion Paper No. 17-E-066 (2017)]⁹

AI Rights as Inventors

Intellectual Property, as per the WIPO definition, is “*creations of the mind, such as inventions*”. With the infusion of such Artificial Intelligence, which has its mind and capability to invent in this era, the question posed before we are: Would such inventions be Human Inventions or AI Inventions?

The answer lies in the Patent Laws. No country or legal jurisdiction currently allows Patent Registered under an AI of their invention, with minimal intervention. It emanates from the fact that existing patent laws language refers to investors as “individuals” or “persons”, i.e., human inventors, leaving little or no scope for interpretation of a non-human AI as an Inventor. Even though these laws are a decade old continued debate and possible legislation are expected.¹⁰ Now, the question lies with whom these Patent Rights would be most secured?

Future of AI in Patent Law

In today's technological world, the interaction between Patent Laws and AI is growing. It has been widely used to simplify fundamental functions' performance and reduce human effort. AI allows systems to work quickly as simple calculators and gadgets. With a quick look, AI enables systems. However, it operates in a far more sophisticated manner. Nowadays, AI- Automation systems are associated with their critical learning to accomplish tasks that

⁹ *Id.*

¹⁰ Ryan N Phelan, *Can an Artificial Intelligence (AI) be an Inventor?*, MONDAQ (Mar. 26, 2021), <https://www.mondaq.com/unitedstates/patent/1051190/can-an-artificial-intelligence-ai-be-an-inventor>.

enable them to create anything. Although from a technological perspective, this is a significant development, it poses new challenges from a legal point of view, i.e., from a patent law perspective. In this paper, the patent concept is examined. First, its interaction with AI systems is explored, and the dilemmas presented by such an interaction ultimately are explained.

Currently, a patent is a sole right to an innovation. The term “invention” refers to a product or procedure that provides people with a new way of doing things, such as a novel solution to a technological challenge.¹¹ A patent holder can legally prevent others from making, selling, or utilizing their innovation for a certain period.

As a result, the right given in such instances can be argued to legalize the creation of a monopoly in favour of the original inventor.¹² A legal scrutiny is easy to notice as the European Union strives to persuade states to broaden their national regulations in general and to include computer-produced copyright-producing works and other equipment within the category of “own intellectual creation.”¹³ At the same time, this is a significant step forward in recognizing creativity in these systems when generating poetry and works of art. So on, innovations and patent applications by AI systems and robots must also be considered.

But if a country such as India removes its rigid requirement only of computer programs in conjunction with new devices that are eligible for a patent,¹⁴ it would involve a practical utility, perhaps in many other industries, if an AI-enabled system creates software that can be used on generic machines. Generally speaking, current legislation and guidelines must be streamlined so that patents may be granted for inventions by AI.

Application of Coase Theorem for Ascertaining Human Inventor of AI Inventions

Coase Theorem

We have deduced that currently, AI themselves can't be the Inventors with the existing laws. Many scholars have shared their opinion on this issue, and both sides of the debate have made reasonable arguments on the pertinent issue. But, the prevailing IP and Patent laws one side of

¹¹ PATENTS- WORLD INTELLECTUAL PROPERTY ORGANIZATION, <https://www.wipo.int/patents/en/> (last visited June 14, 2022)

¹² Jenny Mathney, *Patent Protection*, UNHINNOVATION, (Jan. 31, 2022, 09:08 AM), <http://innovation.unh.edu/patent-protection>.

¹³ DRAFT REPORT- COMMITTEE ON LEGAL AFFAIRS (May 31, 2016), https://www.europarl.europa.eu/doceo/document/JURI-PR-582443_EN.pdf?redirect (last visited January 31, 2022).

¹⁴ Anthony Man-Cho So, *Technical Elements of Machine Learning for Intellectual Property Law*, SSRN ELEC. J' 1, 7 (2020), <https://dx.doi.org/10.2139/ssrn.3635942>.

the discussion has its downfall, and hence AI can't be inventors presently. But then the issue arises to whom (person or individual) the government should assign these Patent Rights? Therefore, with the help of Economic Theory on Economic Efficiency, which can also be referred to as Pareto or Allocative Efficiency (maximizing the surplus from cooperation),¹⁵ we would aim to conclude regarding Assigning of Patent Rights of AI Inventions. (The assumption under such Pareto optimality is "a consumer would not choose to consume more or less of any goods or services; hence, all goods and services are allocated in such way)."

The disparity between "*private marginal cost*" and "*social marginal cost*" occurs when enterprises do not work in their self-interest and produce at a less-than-efficient output production level. In such a situation, producers decide based on individual economic factors regardless of social costs and benefits. Coase Theorem comes to the rescue as transaction cost is zero, and the distribution of the resources is efficient in the presence of the relevant information if the "*relevant property*" entitlements are allocated without considering the initial allocation.¹⁶ The theory suggests that the law assigns the entitlements of Property (in the present scenario Patent) to the party who values the most to minimize the costly exchange of entitlements.

Positive Externalities

The famous illustration of Coase's Theorem is the Railroad and Farmer example, in which both parties agree to maximize their surplus with the minor damage. Still, the image includes a negative externality (fire caused by the train moving through the farmer's crop).¹⁷ Similarly, Coase's Theorem is relevant to circumstances containing both positive and negative externalities from market activity. Positive Externalities include scientific breakthroughs, benefits produced as a result of another's activity, mass media, lack of competition in the market, and being a market free-rider.¹⁸

Depending on whether the government assigns the right to obtain a patent over an AI's invention, it may create benefits for parties other than those involved in the initial sale of software, such as software programmers, engineers, product designers, downstream users or owners of the software etc.¹⁹ The characterization of these rights as externalities is consistent

¹⁵ PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, ECONOMICS 148 (18th ed., McGraw-Hill Irwin 2005).

¹⁶ RH Coase, *The Problem of Social Cost*, 3 J L & ECON 1, 15 (1960). (hereinafter "Coase")

¹⁷ *Id.*; Christopher J Coyne & Peter T Leeson, *Who's to Protect Cyberspace?*, 1 J L ECON & POL'Y 473, 479 (2005). (hereinafter "Coyne")

¹⁸ *Id.*

¹⁹ Paul E McGreal, *On the Cost Disease and Legal Education*, 66 SYRACUSE L. REV. 631, 637 (2016).

with earlier studies on creating and disseminating information-related extrinsic benefits.²⁰ The underproduction of goods for sale is common when positive externalities are present. Companies tend to base their production decisions on an item’s intrinsic value (such as the value of AI) than on the net social benefit it provides. (e.g., the value of the AI + the value of the positive externality- the AI patents).²¹

Although the good’s net public value still exceeds its production cost, software companies will halt production because they fail to consider positive externalities when deciding on output.²² Consumers’ circumstances may be better (by allowing them to purchase items at or below their net utility to the customer), but this will result in economic inefficiency since the manufacturer will discontinue production despite having more units available for sale.²³

Table 1: AI production cost without realizing Patent Value and Market Value (in Rs.)

Unit	Per Unit Cost Production	Market Price of each Unit	Patent Value
1 st	Rs. 3000	Rs. 5000	Rs. 2000
100 th	Rs. 3100	Rs. 5000	Rs. 2000
119 th	Rs. 5000	Rs. 5000	Rs. 2000

Assuming that the general public purchases each unit of artificial intelligence creation for Rs. 5000 and each unit sold yields a social welfare value of Rs. 2000 connected to the patent value, demand and patent value are both constant, and the following assumptions are made: If a software corporation’s per-unit cost of manufacturing increases by Rs. 100 after the hundredth unit is produced, the company’s profit margin is Rs. 100. The software company’s production inefficiency will be exacerbated if the company cannot realize the Rs. 2000 Patent value related (e.g., if patent rights are transferred to another party), and production would be halted after the 119th unit (as Cost of Production < Market Value after the 119th unit), resulting in inefficiency. Even though the cost of production is still below the net social welfare produced, i.e., Rs. 7000. Assuming 120th Unit costing Rs. 5100, the company is still creating social welfare gain of Rs.

²⁰ Julie E Cohen, ‘Lochner in Cyberspace: The New Economic Orthodoxy of “Rights Management” (1998) 97 Mich L Rev 462, 546.

²¹ Coyne, *supra* note 17.

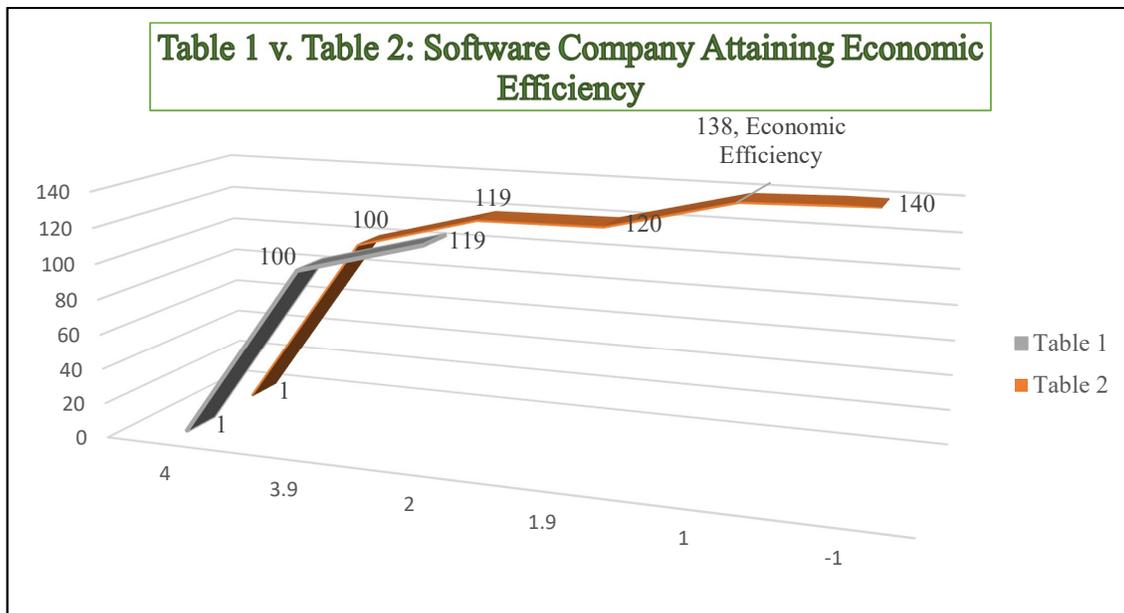
²² Jeffrey Standen, *The Exclusionary Rule and Damages: An Economic Comparison of Private Remedies for Unconstitutional Police Conduct*, 2000 B Y U L’ REV. 1443, 1447-48 (2000).

²³ Coyne, *supra* note 17.

1900 (Rs. 5000 intrinsic values of AI + Rs. 2000 value of the patent – the cost of production of the unit, i.e., Rs. 5100).

Table 2: When Software Company realizes the Full/Net Social Welfare Value and attains Economic Efficiency. (In Rs.)

Units (1)	Per Unit Cost of Production (2)	Market Value (3)	Patent Value (4)	Unit Net Social Value (5) = (3) + (4)	Social Welfare Gain (6) = (5)- (2)
1 st	Rs. 3000	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 4000
100 th	Rs. 3100	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 3900
119 th	Rs. 5000	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 2000
120 th	Rs. 5100	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 1900
138 th	Rs. 6900	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 100
139 th	Rs. 7000	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 0
140 th	Rs. 7100	Rs. 5000	Rs. 2000	Rs. 7000	Rs. 100 (Loss)



138th Unit is where the company would attain the Economic Efficiency and receive the entire net social welfare value by their cost of production. Further, they would not receive any gains from producing more AI.

Allocation of Patents to one Valuing the Most

Suppose the Patent Office strives to maximize “*net surplus*” (i.e., societal welfare) by allowing software businesses to realize their AI's total value and produce at an economically efficient level. In that case, it raises the question of who should be given AI patents.²⁴ (Explained surplus-maximizing modification is Pareto-optimal.) Programmers, software companies, AI users, downstream technical specialists, product developers, and others may be eligible to receive such rights. Coase Theorem renders this question redundant under the confines of no transaction costs and perfect knowledge.²⁵ It makes no odds who gets the patent rights since the entity that values them the highest will buy the patent, which will flow upstream to the software firm.

Hypothetically government provides AI patent rights to a downstream party that discovers an innovation generated by AI and patents it. For simplicity, let us assume that firms who purchase AI and use it to innovate (“AI users”) place a high value on patent rights (Rs. 2000), with all other parties setting a lower value on them.²⁶ Without transaction costs, the AI user would place the greatest value on the AI and would be willing to bargain to retain that right. As a result, in addition to paying Rs. 5000 to the software company,²⁷ the AI user, would be willing to pay up to Rs. 2000 to the downstream party for Patent Rights.

With perfect information, the “downstream party” would realize much sooner that they will not be able to get Patent Rights unless and until a software firm manufactures and sells the specific AI employed in the innovations being created. It is important to remember that a software business will seek payment from the downstream party of up to Rs. 5000 (leaving that party with a modest profit) or would refuse to produce that copy of AI at all (and the downstream party will lose all revenues) (patent owner right to exclude other independent

²⁴ Juan Antonio Gaviria, *An Experiment on the Role of Penalty Clauses and the Level of Legal Remedies for Breach of Contract on the Prevention of the Hold-Up Problem in Colombian Law*, 14 RICH J. GLOBAL L. & BUS. 1, 4 (2015).

²⁵ Coase, *supra* note 16.

²⁶ *Id.*

²⁷ *Id.*; W Michael Schuster, *Artificial Intelligence and Patent Ownership*, 75 WASH. & LEE L. REV. 1945, 1977 (2018).

inventors, inventing similar to their invention).²⁸ Consequently, with this sequence of costless transactions, the software firm will realize the total value of Rs. 7000 and will be obliged to produce at an efficient level (cost of production = Rs. 7000) to maintain profitability. *Table 2: When Software Company realizes the Full/Net Social Welfare Value and attains Economic Efficiency. (In Rs.)*

Though these assumptions are a bit unrealistic to apply, this represents how inter-firm interactions enable ownership of rights by the party that values them the highest and guarantees a manufacturer secures the total value of the economic activity. The software company will then produce at an “economically efficient level” at which the “production cost” matches the “net social welfare value” created.

Solutions for Attaining Coase’s Efficiency in Real Market Place

Implementation in Real World

Law-makers should try to implement a system that resembles an idealized Coase a Market in developing the best sustainable state of affairs. (Coase’s Theorem and assumption of no transaction costs is the best primary tool for assigning entitlement and allocation analysis).²⁹ Then in the real world, we know that costless transactions are impossible and need to be contemplated to attain the most of the net social welfare cost. Efficient allocation of resources is a positive external presence in our situation. Still, these can be reduced due to high transaction costs, which could impede inter-firm trading.

In reality, transaction costs are so high that the allocation of entitlements might not change after the initial allocation.³⁰ The incentive to bargain also becomes the lost hope when transaction cost outweighs the grain from the trade, which might fail the trade and also seize up the efficient allocation of the Property predicted by the Coase. At a minimum, transaction costs will be handled with the economic surplus. The two-way possible are:

Assigning the Entitlements to one who values the most

²⁸ Shlomit Yanisky Ravid & Xiaoqiong (Jackie) Liu, *When Artificial Intelligence Systems Produce Inventions: The 3A Era and an Alternative Model for Patent Law*, 39 CARDOZO L. REV. 2215, 2215 (2018). (hereinafter “Liu”)

²⁹ Guido Calabresi & A Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1096 (1972).

³⁰ Pierre Schlag, *An Appreciative Comment on Coase’s the Problem of Social Cost: A View from the Left*, WIS. L. REV. 919, 923 (1986).

By awarding the entitlements to the party who values them the highest, it will form the similar rule of the Coase Theorem to avoid transaction cost entirely.³¹ There is no need to engage in transactions to place an entitlement in the hands of a party who values it the most if that person has the initial assignment. As efficiency is advanced when the party buying the property rights is initially allocated the rights, impacting transaction cost.³² This strategy will ultimately maximize net surplus and achieve economic efficiency, following the Coase Theorem.

Distributing Entitlements

To minimize the transaction cost, entitlements can be distributed and make it possible; transaction cost should remain below the potential gains from the trade for efficient allocation per Coase Theorem.³³ Since expenses rise per party, keeping minimum parties engaged in a transfer will be ideal.

The first possibility is the best way out with the least involvement of transaction cost by simply assigning the privileges to the party which values it the most. Most valuation of Patent Rights is accrued when the Patentee participates in the relevant marketplace. The most extensive participation in the market is from AI users (using the AI to invent), and they value them the most as AI Inventions are most valuable to them. Therefore, AI users in the lifecycle of AI Invention value them the most and are the suitable candidate for securing the Patent Rights for AI Inventions. Example: AI- Watson, manufactured and distributed by IBM (software company). AI is used in varied fields of law, finance and medicine. But IBM has still not entered the doors of commerce and marketplace in any areas in which AI is involved. They are within the limitation of their expertise.

Attaining Legal Efficiency with AI

We have ascertained till now that granting these patent rights to humans is the best possible outcome for attaining economic efficiency. AI users with AI Inventions' Patent Rights can bring out more positive potential effects in IP laws and other fields of law.³⁴ While AI users in

³¹ Herbert Hovenkamp, *The Coase Theorem and Arthur Cecil Pigou*, 51 ARIZ. L. REV. 633, 638 (2009).

³² WERNER Z HIRSCH, *LAW AND ECONOMICS: AN INTRODUCTORY ANALYSIS* 20 (2nd. ed. 1988).

³³ Daniel B Kelly, *Toward Economic Analysis of the Uniform Problem Code*, 45 U ICH. J' L. REFORM 855, 867 (2012).

³⁴ Davies, C.R., *An evolutionary step in intellectual property rights—Artificial Intelligence and Intellectual Property*, 2011 COMPUTER LAW & SECURITY REVIEW (2011).

the decision-making process can examine the novelty of an item in terms of its usefulness and non-obviousness, it can create value and stability in the patent process.³⁵ The AI can support the understanding of the inevitability of an item or object substantially. The AI can efficiently handle the main task of news research. Considering the scale of data available to study from the AI, if supported by proper systems, challenges can be overcome. The law may still require a process of appeal to allow the parties affected to challenge them.

Figure 2: Worldwide Laws and Regulations related to AI



[Source: Cognilytica’s Worldwide AI Laws & Regulations 2020 Report - Key findings]³⁶

Figure 2: Worldwide Laws and Regulations related to AI shows how laws can overcome the fears of people where people feel that AI will take over everything. Novelty, usefulness and non-obviousness are three main requirements for registering a patent. Figure 2: Worldwide Laws and Regulations related to AI shows a model with a substantial human hand in the system to overcome some background distortions and other biases created by an overloaded AI system.

As AI collects a lot of information from big connected data, the novelty of a product or process could be tested for artificial intelligence at some point. Given that artificial intelligence only tests single reference primary data according to the law, a search of the artificial intelligence

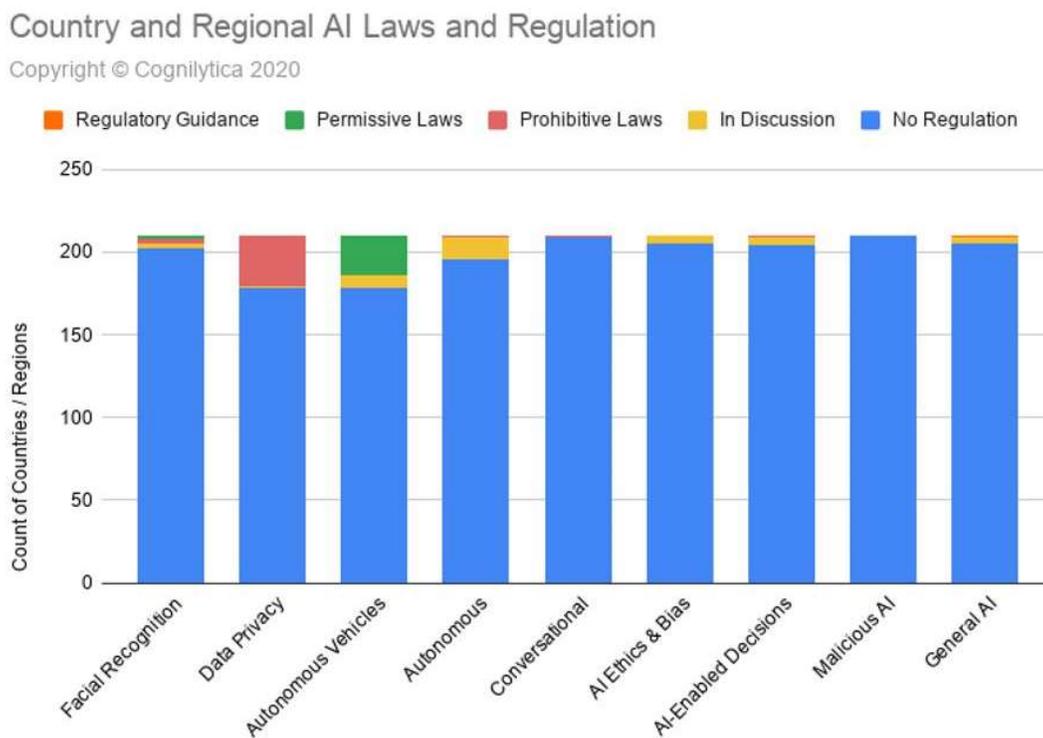
³⁵ Erica Fraser, *Computers as Inventors-Legal and Policy Implications of Artificial Intelligence on Patent Law*, SCRIPTED (Jan. 31, 2022 10:29 AM), <https://script-ed.org/article/computers-as-inventors-legal-and-policy-implications-of-artificial-intelligence-on-patent-law/>.

³⁶ Cognilytica’s Research, *Worldwide AI Laws and Regulation 2020*, COGNILYTICA (Jan. 31, 2022 10:29 AM), <https://www.cognilytica.com/2020/02/14/worldwide-ai-laws-and-regulations-2020/>.

with several databases could be conducted.³⁷ This would take a certain level of artificial intelligence training. It would also demand enormous strength in computing. The AI has done the job of looking at and testing the novelty of a product or process. On the other end, there could be a human hand.

Figure 3: Count of Countries/Regions with AI Laws, analyses the count of regions and countries presently with some form of AI regulations. Currently, the legislation does not require the use of artificial intelligence. Human beings could test the following usefulness requirement since the majority of products and processes for inventions should be humane and can be assessed by people who are experts on the relevant social context. The tricky part will be the non-evident part; two components might be included here to test the unnoticeable nature of a product or process. AI and people with related knowledge could work together to make the best possible decision on a product or process in some way at this level.

Figure 3: Count of Countries/Regions with AI Laws



[Source: Cognilytica’s Worldwide AI Laws & Regulations 2020 Report]³⁸

³⁷ Liu, *supra* note 28.

³⁸ *Id.*

We assessed with the help of the Coase Theorem in positive externalities when property rights (i.e., Patent Rights) when granted to a Human (AI User) who values it the most along with attaining the net social welfare value in the market by reducing the transactional costs reality (attained by software company, manufacturing AI), is the best ideal grant of Patent Rights for the AI Inventions.

Conclusion

It is unmistakable that AI is bound to grow more and more every day. With companies like GE, IBM, Apple, and others pushing forward their efforts to revolutionize software-based technologies, sophisticated AI-based technologies will increase the number of such “inventions” that may arise. Legislators have a considerable scope to develop guidelines for determining situations of this kind and provide them with the best form of legal protection.

But Stephen Hawking’s view is that AI’s autonomy can reduce the value of human thinking and invention. A more favourable solution would be to give the inventions made by an AI a more collaborative form of patent protection. This is because the rights and obligations of patents cannot be achieved by machines alone are crucial to a human element.

With the help of the Coase Theorem, we could assess the essential intervention of humans even within the inventions solely by AI. With this paper, we have explored the importance of AI Invention in today’s era and patenting these inventions to attain Economic Efficiency. In conclusion, AI inventions must be patented to mimic the Coasean Market and achieve the highest efficiency in the market. Hence, the Patent Rights must be granted to the AI users to acquire the more significant chunk of net surplus.