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**A STUDY ON INTELLECTUAL PROPERTY RIGHTS IN RESEARCH
AND DEVELOPMENT ON ENGINEERING ETHICS AND EFFICACY**

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Abstract

Intellectual property is considered to be an inevitable property in twenty first century. Intellectualness lies everywhere in the universe that summarily equips a person with some rights and provides recognition for him for inculcating such unique concept. The intangible creation of humans mind in evolving a present technology matters most in the global arena of research and development with respect to the laws that regulate such rights. Intellectual property rights and engineering ethics are two sides of a same coin, however in many incidents they are viewed as aliens to each other. This paper aims to throw light on the basic concepts of engineering and technology that governed by intellectual property laws and the forgotten feature of engineering ethics when legal provisions have their influence. Subsequently, the research and developments of the intellectual technology transfer is been discussed in the analytical research methodology by focusing various Global and Indian examples. The recommendation of compulsory licensing by the TRIPS Agreement to all the member countries is the matter of creating awareness among the inventors that inventions are not for the purpose of filing patent rather patent protection is only to secure the intellectual property of oneself and to promote uniqueness in the field of invention. Following these ideas the paper tries to focus on the contemporary issues that are faced by the intellectual property industry like artificial intelligence and machine learning, which questions the ownership of a machines intelligence and its protecting mechanism and gives two controversial discussions about such ownership and explains human beings bear the sole responsibility of such intellectual property because, the machine itself is an intellectual outcome of humans. Finally the paper cites various legal provisions in the intellectual property rights and their loophole used by the inventors and recommends both the legal provisions and engineering ethics are need of the hour.

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Introduction

The concept of intellectual property is considered to be the protective feature of any inventions originality and guaranteeing recognition for the inventor. In the world of competitive invention technology, ones invention should not be pirated or malfunctioned by others using the flaws in the protecting laws. Intellectual property rights in the field of engineering and technology is an alarming feature in the blooming inventive world. The secrecy in the products or processing formula or design is not to wither away its future scope among the budding scientists, rather to evolve the original invention in the correct way by the person who gave life to it, and to enrich more information in the same contribution done by him. The relation between the inventor and the invention is very crucial since the interface of third party could lead to the destruction in the technology and the original intent for what the same has been made will be put to great question.

Intellectual property is said to be the outcome of lot of human related efforts like application of mind, creativity, logical and critical thinking of the issue, in addition to this, more amount of tangible and intangible property can be a loss for the inventor with monetary and economic benefits, though the interest in the invention does not diminishes, nevertheless the recognition for his noble cause will not be granted among the peer scientists.² The need for technology is the shortcoming existing in the society or specific field of invention and it can be justified that, technology deals with the existing ease of doing things around us and engineering is all about how the said issue is been approached mathematically and by using some common sense in arriving the solution for it and updating the current technology.

Intellectual property rights systems

Intellectual property rights is an exclusive right that has been guaranteed by the state to that particular person or an individual whose brain child came into existence. Irrespective of its field of study, each and every object that we see around us have some kind of protection for itself or the protection encompasses the products design or the processing formula of that particular object when the field of Engineering is taken in to account, without the influence of intellectual property rights, the invention could not perish for itself and the true intent is analyzing the nature and intent for invention would go in vain. Take for example a machine is been fabricated

² Lalit Jajpura, Bhupinder Singha and Rajkishore Nayakb, An Introduction to Intellectual Property Rights and their Importance in Indian Context, Journal of Intellectual Property Rights Vol 22, January 2017, pp 32-41

through the recent technological updation, it cannot be the parent invention because more chances are there, that the said idea could have been conceived only through the existing inventions if so, the latest invented technology, cannot have sole laurels for the latest inventor, but also for the earlier inventors, who contributed for that. In the industrial Revolution Era of 4.2, there seems to be more scope for artificial intelligence and machine intelligence in the field of Fabricating a product, in such situations, the brain child protection system i.e., the intellectual property protections systems needs to be more vibrant and efficient in the process of protecting the intellectual property in general, most of the laws including Indian Patent laws grants patent for the period of twenty (20) years from the time of registration and finally, the royalty and monetary benefits out from it are enjoyed by the inventor himself.³ Patent protection in a nutshell encompasses that the commercial production of another person's brainchild, say for example, the process of fabricating Micro processors in the field of Electrical Engineering cannot be done without the consent of the person or the company who hence sole rights in producing it. The further query arises whether what are the products that can be patented according to the legal provisions. The answer to this question is all the products like industrial, domestic and commercial usages, all the processing mechanisms while guide person to develop the previously conceived idea, all the machines especially in the field of engineering the manufacturing technique can be patented. For example, the method of baking a sponge cake is also been protected by the patent rights, in the landmark case on the recepies while were the matter of great issue, out from that Publications International Vs. Meredith,⁴ the court held that, through the manufacturing techniques used to be protected by patent, there are some exclusion for it. They are utilitarian objects, most commonly used ideas, facts and formulas, need not be protected with the copy rights law, since they are irresponsible in every days routine, the honorable court also cited the example of a Caitilin freeman's modrian cake, which does not owns any intellectual protection, finally all the matters of composition can also be granted with the Intellectual protections. A machine cannot be fabricated without three important areas of concern. They are mechanical, electrical and programming feature, Here all these put together in the name of automation needs a kind of layout design protection for each and every integrated circuits that is present inside the machine. The common aim of the Semiconductor Integrated

³ Sagar Kishor Savale1 and Varsha Kishor Savale, Intellectual Property Rights (IPR), World Journal Of Pharmacy And Pharmaceutical Sciences, Volume 5, Issue 6, 2529-2559 Review Article ISSN 2278 – 4357

⁴ Publications International, Limited V. Meredith Corporation, Nos. 95-3485, 95-3530 United States Court Of Appeals for the Seventh Circuit

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Circuits Layout Design Act 2000⁵ is to provide the necessary measures for protecting the integrated circuits that has been in built in a machines design or regarding any micro processor chips that was fabricated for that particular purpose for a unique cause.

Engineering Ethics - A forgotten field in IPR

Ethics is the moral etiquette that has been followed everywhere for a successful outcome, in this regard engineering inventions are not an exclusion for it. Many of the research and development tanks around the globe are more efficient in inventing new methodological and ideas rather, they are very less etiquette with the intellectual property right ethics, that has to be carried along with. The intellectual property rights are the one which enables a person to get benefited from the moral and material cause of action that result in the ownership of technical, scientific and evolution in the existing process or products. In Article 27 of the Universal Declaration of Human Rights,⁶ it has been explained that these rights are very pivotal in the field of mention Engineering in incomplete without the industrial design of that particular product or process. Whenever an Engineer fabricates or formulates a machine, it should comply with the provisions of all the accepted protocols of manufacturing. Such accepted protocols or otherwise called as the ownership of the industrial designs are protected from any further duplication and to make commercial outcome from them without the consent of the original inventor copyrights and infringing the patent protection in engineering field leads to the more number of pirated versions of the original products in the market which will severely affect the defamation of the parent product and literally affects the economy of the country to a large extent. WIPO, called as world intellectual property Organization is the one which guaranteed the intellectual property rights is a product that has been given consideration in the global forms of Engineers.

Engineering Institutions like Indian Institute of Technologies and many pioneering Universities are being the hub of invention for many scientific development and contributions. From the mid of twentieth century since the development of information technology sector, the ethics in software engineering has been defined in the ethical boundaries of computer technology, in the intent to promote the ethical and moral boundaries in software engineering which relate to the intellectual properties rights system. Whenever there is a weakness in the software or hardware design of a product, there is a great clause for the corporate profits, directly they jump in the violation of intellectual property right process, but still the weakness in the hardware industry designing and processing malfunction, is more likely the affect not only the companies but also

⁵ The Semiconductor Integrated Circuits Layout-Design Act, 2000, No. 37, Act Of Parliament, 2000 (India).

⁶ United Nations, Universal Declaration of Human Rights. 1948.

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the economy of a country in a vast manner.



(Fig.1: Factors affecting intellectual property rights in software piracy)⁷

Hence the paper tries to carry a broad message that engineering inventions lost their ethics in the field of intellectual property field. For example, many inventions have the source from some other, without giving proper recognition to the referred process of technology, in the field of intellectual property protection one's brainchild, the inventor have the right to profess the mark done by him and some others which was an allied work of him, where the complete ownership of the intellectual properties are missing. The various rights for the internal recognition of the patent includes the following features the promotions, reference, citation, and etc.⁸

Relation between intellectual property and Engineering industry

There is a strong strength in the relations between the intellectual property rights and in engineering industries, both are considered to be the two sides of a same coin, where one cannot exist without the other. 'Lamy' in 1999 suggested that there is a inherent relation between intellectual property and engineering sciences, hence, as an outcome all the valuable assets of the engineering inventions are protected by a strong shield. Nevertheless there exist more number of issues which tries to regulate their relations, they are all followers. " *The copyright issues are the first and foremost issue in analyzing the builders of exclusive legal provisions that are concerned with their protection of the invention. The ultimate goal of the copyright system is to grant the inventors with more scope of technical, scientific, inventive productions among the competitive creators. This copyright grants can also be extended until the provision given for the publications rights and which witnessed a huge growth in the demanding broadest of the*

⁷ Ethan Sargolzaei, Fateme Keikha, Examining Software Intellectual Property Rights, (IJACSA) International Journal Of Advanced Computer Science And Applications Vol. 8, No. 11, 2017

⁸ R. Thomas, Debugging software patents: increasing innovation and reducing uncertainty in the judicial reform of software patent law, 191– 241.

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lectures and other significant resources that are expected significantly to get increased in all forms."⁹

The second issue deals with the industrial designs and models of utilization production patent are one of the effective tool, which can be used by the scientists and engineers for safeguarding their ideas, but the most of the utility modes are mainly used for the purpose of hardware designs and fabrications, for example a thermal machine needs the protections of all the semiconductors, heating coils design in the motive of protection and improvement in the existing procedure and adapting the patented products way of manufacturing which is significantly used by peer inventors. It is the basic rights of an engineer or any person who processes the intellectual property to proceed with complete freedom and concentrate in his area of specialization rather to worry about the intellectual piracy, nevertheless he or she should be in a position to know the contemporary issues in the field of patent registration and securing process. A student of literature should have an unconditional love towards literature, a student of medicine should have both knowledge and service mentality, a student of agriculture should have a goal of making India a self sufficient country in terms of agricultural produce, likewise a student of law should definitely know how the intellectual properties are dealt with and must argue for the intellectual rights before the court of law.

The importance of intellectual property in Engineering is inevitable due to many reasons. Erbisich in 2004, portrays his personal experience, which showcases the un-eliminating factor of IPR among engineers and inventors. *"During my second year as Director I received a publication on successful inventions. I looked through it and there was a description of a successfully licensed invention, which to my surprise was identical to a successful research project a graduate student and I had conducted several years previously. Our work had been completed before the work in the article had been started! They had patented their results, we hadn't. We didn't know we had an invention! No one at the university knew what we had done was an invention. We had missed an opportunity to patent. That was very disappointing. However, it gets even worse. The patented research had been licensed and in its first year on the market sold more than U.S. \$19 million worth of the patented material! Now I was really interested in knowing all about intellectual properties. I also wanted to make sure that not being able to recognize an invention did not happen to anyone else at the university"* (Erbisich,

⁹ Principles of copyright Cases And Materials, David Vaver, July 2002

2004)¹⁰. However the influence of intellectual property in the field of engineering and technology cannot be overstressed. If that has been done, then the possibility of exploiting or developing from the existing process of system will be catalyzed negatively. Hence the relation between the intellectual property rights and engineering industries should be fiduciary and one's influence on other should be smooth in nature.

All Engineers are not patent Experts

In this evolving Era of competition, many engineering experts do lack the knowledge of intellectual property rights. Whenever a law is been interpreted in allowance with the ambiguous nature of the same, finally for sure a solution should be penned down for the issue. To the post-TRIPS agreement within their nation, in accordance with their once law and to provide more advantages for the compulsory existing idea. Most of the experts in technology are strong in their field of research and development but unfortunately they lack the idea of intellectual property laws and their implications. This is a bitter truth that the Indian statutes comparing to any other countries laws are pro-active in protecting the interested but they are more relatively not used by the Indian experts, it will be a thorn in skin throughout. In the post-TRIPS, more number of multilateral treaties in the field of intellectual property in been spoken through the world. Simultaneously on December 20, 1966, the process under the auspices of world intellectual property organization (WIPO) will come in its original form to analyse the copyright issue including the made works and infringement of patents in their own respective field of study when a graduate of engineering comes out of an university he was well thought how to develop a product by using the existing technology and to solve the issue existing in particular field, but he is exposed to the knowledge of how the patent is his or her intellectual property must be protected. The question arises here is not whether proper education was given regarding the intellectual property rights, rather our concern is all about whether the scientist are eager to learn the laws and statutes nationally and globally to protect their concept in applied engineering. In the previous sections we discussed about the fiduciary relationship between the inventor and the inventions, but here more than fiduciary relationship, a kind of knowledge and skilful relation should also be existing between them for safeguarding one's own inventions.

Many Technicians misunderstood that intellectual property rights is the basic human rights, though this statement is not false, more than the human right, the brainchild of the inventor can

¹⁰ Singh R. Vol. 1. New Delhi: Universal Law Publishing Co. Pvt. Ltd; 2004. Law relating to intellectual property.

claim the birthright from the person who was a major cause in inventing the product or fabricating technique. As the contribution from the states side, the Indian Government has appointed the Engineering expert promotion council (EEPC),¹¹ which was considered to be the apex body in charge for the regulations of all the Engineering goods and services within our country, in this regard, when comparing the foreign companies, the utmost case has been given to the process of developments of research related issues. As our point of concentration is to summarily propose that the budding engineer who are less frequently exposed to the intellectual property rights should be equipped with the more knowledge of the patent protections technology, today we are in the knowledge-driven competitive business place, where one cannot conceive the solution for the exiting issue, if so, when the conceived idea of others are left as an abandoned child, then there is no use in the development of that particular technology and industrial patent protections seems to be in vain.

Research and Development in Intellectual Technology Transfer

Intellectual property is considered to be the matter of concern for the development of new ideas and conceiving new methodologies in the area of analysing what the technology lags. There are various indicators that showcase the intellectual property rights influence in the concept of Applied technology. All these expenditures of the systems are directly or indirectly influencing the inventions of the persons and most probably the basic idea behind these cannot be the cause of action in the protecting nature of the intellectual property. Especially in the field of automation, research and development pertaining the intellectual technology transfer accounts to be great chance of piracy. All the think tanks and Laboratories that have the idea of blowing technology must have proper protocols of what cause as a product out from them. patent Documents provide the necessary research analysis and Techniques that are mandatory for producing the missing concept in the existing technology. One should know what is the need of the hour, rather what he can find out easily.

In many legal process of protecting the ideas, the Research and development should avoid the unnecessary exposure to non-related areas of interest, which will abruptly help in reducing the resource wastage to a large extent. All the verifications of such patents will lead to the improvement in the efficacy of the Engineering process, product or any manufacturing concept. The major theme behind Research and Development in the intellectual property is the

¹¹ Barakat, Taj Alasfia M, Intellectual Properties - Engineer's Perspective, 2016/02/20

"Conception of new innovative idea" and to protect the same by Featuring new concepts in the blooming Technological Transfer. All the patent laws and statutes which guarantee the protection for an intellectual property should also provide the opportunities it have with the market force. All matters of relations should not be discussed only in the eyes of protection, rather the ultimate goal of the said invention is not to remain in paper, rather to serve the society to a large extent and to ease the livelihood of individuals in all areas. When intellectual property rights in technology in been discussed, it also has very crucial role in the defense mechanisms of a country provided the research and development are done properly.

Professor. Shantanu Bhowmick just saved Rs.20,000 crores to Indian Defense force due to his ability in Research and Development. In a joint collaboration with the Ministry of Defense and the DRDO, the professor has invented a bullet proof jacket which will save thousands of Indian soldiers in the Indian border.¹² Pertaining to the above example, the protection is very large only of the invention is governed by the intellectual property protection. If the said criteria is missing then even for an Indian invention, we need to get the permission of a foreign country who is very much advance in getting the protection of the intellectual property rights. To sum up the Research and innovation in Technological Transfer of intellectual property, the process begins focus the conception of an idea till the conceived idea stands as a output which is considered to be the problem solver. Intellectual property to put it in simple words, when one's own idea itself finds out what is the problem of the issue, then almost fifty percent of the problem would be solved from there on.

Global Issues Pertaining to Engineering Intellectualness

Today we live in the world, where the first and last efficient country is determined by the economic, and technical advancement of that particular country. The ability to invent in the seed for a country to be spoken in the global arena. Engineering do not exist, without intellectualness and the same cannot be developed without proper mechanisms in protecting the invention. Science and technology innovations in (IPR) Intellectual Property Rights like copyrights, patents are important matters that are subjected to various serious issues around the global platforms. "Temporary Monopoly" is the first spoken issue around the inventors. When an invention is been done, there exist a strong bond of relationship between the inventor and the

¹² The Economic Times,

<https://economictimes.indiatimes.com/news/defence/professor-shantanu-bhowmick-just-saved-the-indian-army-rs-20000-crore/the-man-on-the-mission/slideshow/59049585.cms>,

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invention, as we discussed in the previous headings, Nevertheless, the legal provisions in acquiring the monopoly is subjected to a Temporary Nature.

The General Agreement on Tariffs and Trade (GATT Agreement)¹³ which was established in the year 1948 in Geneva has contributed more in dealing with the issues relating the intellectualness of a countries product to trade benefits of other countries. Initially it increases the international Trade by reducing and rationalizing the tariffs. Mentioned in the product all process of a intellectual property, then the GATT has very less solid legal foundation to deal matters pertaining to it, and it was finally dealing only with the trade of all the goods that analysis the tariffs. The second issue regarding engineering intellectualness in the way that the inherent embody of a policy conflict arises between the intent of providing Technological transfer incentive and the nature of encouraging the intellectualness among the developed new technology and the accumulation of the same. most of the governments have legally recognized the lease process of making intellectual property as a simple one due to the gap that has been developed between the inventor and the registering process. Generally all matters relating the intellectual property matters comes under the national jurisdiction which areas all the legal matters and suits for any problem will be dealt in the court of law according to the place where the product is been made, sold or used.

In such case the international law that governs the intellectual property rights will have very less influence. It is clear that even the TRIPS Agreement after it has been enacted, it was emphasized by the organization that it is the sole responsibility of each and every country to adopt and regulate the intellectual property laws that pertains to the legal provisions of TRIPS Agreements. The famous quantitative analysis of data, reported by the V.S. International Trade Commission (1988) analyzed that the actual loss of aggregate nature to the U.S. intellectual industry remains inadequate always and the patent protection by other countries avoid contribute to about 2.7 percent of the total sales in their product industry. Protectionism is also a globally spoken issue when intellectual property rights are concerned.

Countries National Economic Policy can also have the direct influence with the Engineering intellectualness of that particular country. Coming to the analysis of product life cycle, the intellectual industries is very sensitive because these generally show a rapid decrease in the graph of intellectual industry. Hence Engineering and Technological inventions apart from their own scope to perform in the specified arena, the additional work assigned to them in the nature

¹³ General Agreement on Tariffs and Trade 1994, Apr. 15, 1994

of self protection of same and making sure the true intent of the intellectualness accompanying proper protection with legal perspective that exists simultaneously.¹⁴

Inventions not to Register, rather to serve

All the inventions around the universe cannot be subjected to patentable in nature. For example there are many non-patentable invention like thorium, radium, lithium and etc as by the Union Government of India in its section (20) of the Atomic Energy Act-1962. The ultimate aim of any invention is to serve the people in their respective field of interest. Here is the story of a product patent, which was subjected to open access by the company itself. In induction heating technology, only the stainless steel materials conduct electricity from the base and unfortunately most of the pressure cookers in the market and in usage are made with Aluminum as a base material, the company TTK Prestige, a pioneering industry in producing pressure cooker invented a concept of "Flux coating Technology in stainless steel plates that are imbibed in the aluminum body of the pressure cooker in its base."

This was the very first technology that was invented by the company to solve this issue and no other competitors have the same process of production. If the company aimed to protect its patent by the intellectual property laws definitely it would be a barrier for the other competitive companies to produce by the manufacturing formulae. In a paradox action the company does not file any patent related to the said process of manufacturing and it helps in benchmarking the noble cause of intellectual contribution to the society with regards to the Bio medical inventions, in Diamond Vs. Chakrabarty case,¹⁵ the matter was discussed regarding the patenting board that was allowed by the US patent law that encompasses a subject matter in some species of two plants and animals, the law in many western countries do not allow for the patent protection of essential biological process. It was done on the other way round, the natures produce in been subjected to a great question, patent infringement in the feature of prohibiting the act that protecting the inventions intellectual features. There are many ways of infringement like Direct and indirect infringements, in both these cases the purpose to some the technical field will not be fulfilled if the patent protection in seen in securing the intellectual property rights rather in producing more reliable features in developing the structure of realistically used patent invention.

Compulsory licensing is the process which talks about the patent to have no legal protection,

¹⁴ E. Kumar Sharma, Business Today, <https://www.businesstoday.in/Magazine/Focus/Us-To-Pressure-India-Change-Intellectual-Property-Ipr-Regime/Story/214440.html> (Published On February 01, 2015)

¹⁵ Diamond v. Chakrabarty, 447 U.S. 303 (1980)

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but our point of discussion is slightly modified from then since both the dimensions are different, but the purpose behind them is same in all kind. Monetizing intellectual property can be a benefit for the Commercial purpose but when a real and dedicated selfless scientist, if he/she by to contribute something to the societies, the motive behind his/her intellectualness should not only confirmed with the intellectual protection, rather in Intellectual service. There are many kinds of licensing agreements that are needed for the service towards mankind, they are copyrights license agreement, trademark licensing and franchising agreement, and technology license agreement. In general, our area of focus deals about the engineering ethics efficacy in this paper, hence many issues are covered abruptly in the previous sections nevertheless that such noble behavior in granting patent for the individual who have societal concern should also be recognized by the Government and the same should ensure the measures the which does not gave way for misrepresenting the original invention in a wrongful manner by some other persons.

Contemporary Challenges in Intellectual Technology

The realm of intellectual property is subjected to various challenges from time to time. As and when new inventions mushroomed, along with the said invention contemporary challenges also do exist. Starting from the very first convention called as Paris connection,¹⁶ which uses an international arena to protect the intellectual property laws and rights even today many countries around the globe including India is thriving for the same kind of protection and guaranteeing the invention with a good hope and opportunity for inculcating new concepts. The first and foremost challenges is the lack of awareness about the intellectual property rights systems among the society of scientists and engineers, there are multiple Indian samples like "Make in India" project, which stimulated the sense of new startup to have a very good and basic knowledge about the Intellectual property rights and its legal systems.

Many big corporate who claim such legal rights over the intellectual property, should also be equipped with the understanding of how a product or process can be claimed with the intellectual property rights. Here the lack of knowledge on one side and the lack of proper guidance about the intellectual property among the students researchers on other is one of the most alarming issues. The second issue is that, today not only human being thinks and acts, rather it is possible even for a machine to think like human sometimes more than human. In this

¹⁶ Regina Celia Pinto, Paris Connection: Introduction, No. 28 – 2003, Dichtung Digital Journal.

scenario, the inventions done through "Artificial intelligence" should be the matter of concern. When such machine produces something out of its intellectual ability, it should also be guaranteed with proper protecting mechanism. Many of the engineering scientists are unaware about the consequences of the Artificial intelligence and machine intelligence in misbehaving the process of dangerous intellectual ability and who is responsible for the above said issues. In the famous case *Naruto vs. Stater* the same issue with artificial intelligence intellectual protection is discussed and the court held that any matter of intellectual property which are conceived other than human brain cannot be a piece of evidence for claiming such rights as humans claim. With a paradox to this statement the European patent office, where the patent applications has been field by 'DABUS' an Artificial intelligence technology, it was hold that through machines cannot directly claim the rights as said earlier, the same can be filed by human being who has the sale ownership of the machine. from this it is clear that in the world of automation, there are very weak laws that govern the intellectual property of a robot, which can be more efficient than humans, to substantiate this Mr. Francis Gurry, who was the Director General of WIPO said *"artificial intelligence in set to radically alter the way in which we work and like, with great potential to help us to solve the common global challenges"* but it is also prompting policy inventions and challenges".

Here the adaption of Techno-legal policy measures that compact the contemporary challenges in the intellectual industry is the need of the hour, and it cannot be brought out in a day or two sine the law enforcement agency pertaining to the intellectual rights should Frame more strict statutes and it should be a problem solver rather a problem makes while protecting one's own intellectual ability. Apart from these existing challenges, the legislation should be drafted or an existing one should be amended in such a way that it provides a complete remedy to the existing issues. Indian Judiciary is been criticized for its delayed process of hearing which is the bitter truth but it is inevitable when comparing various interpretations and provisions in the law, by any means the Judiciary should be always reminded by a quote "Delayed justice is denied justice" and there must be proper mechanism in the speedy trial of intellectual property disputes.

Conclusions and Recommendations

In the field of intellectual property, the rights guaranteed by the acts should not only be in papers but also in developing a holistic structure of protection system. A well established

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relation between the technology and the intellectual property law which creates a great amount of product and process protections which pertains the nature of individuality and uniqueness of the inventions. Each and every day we read about new inventions in the Magazines and Journals, but all these cannot be a cause of technological developments alone, rather they are subjected to patent protection too. The field of Engineering and Technology have the direct influence over the intellectual property attorneys and agents around the globe. Section 83 of the patents Act 1970 conveys the General principles in marking of patent inventions, with the prejudicing concept without other provisions that the Act contains.

As we discussed in the paper, the utilitarian benefits should be granted to any persons who is more keen in analyzing what is the need of the society and what kind of law binds him in protecting his inventions to the world of new technology, apart from the sense of producing and filling a patents for registration, the intellectual property laws should monitor whether the said process is for name sake of an invention or it is having original intent in exploring new ideas which were hidden in the eyes of law and technology. Apart from the obvious nature of finding new concepts the novelty should be taken in to account since only new thoughts of thinking can lead to new inventions and legal measures and the old wine in the new bottle though sounds good, the purpose of intellectual property rights will not be served, for what it was invited.

There are certain suggestions for the intellectual property systems in the field of engineering ethics which will provide more efficacies to the inventions of one's own brain child. Firstly the original patent laws should protect the inventions from publicly being circulated, whenever it is been registered for the purpose of patentable inventions. Secondly the authorities should make sure that the patent formation is exactly a new idea and it should convey a new philosophy to that particular invention and more likely not to cause any ambiguous through about its originality. Thirdly in many instances, many patents will be given proper registration but the name, trademark and copyrights will be owned by many said entities who have more or less same nature of business in that particular field, hence the patent registration should provide a complete freedom and solo ownership only to the person or firm who was a mastermind behind that invention.

We all know a copyright law prevents original content from being copied, but in many circumstances the exact literal words used by the inventor, for example if a renowned author writes a book with his own expressions and feelings the grammatical words are altered in the copied content but the exact expressions of the author is steeled by the other person. In such

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case the "life of words" do not remain unique to the inventors intellectualness. This is of course a very great challenge to the intellectual property legal system. If the true invention of the law is to safeguard the provisions of the intellectual property rights, then some amount of efficient measures has to be inbuilt within the intellectual property framework of a countries legal system.

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