

Patent Laws of United States and Pakistan: A Comparative Discourse

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Abstract

The questions relating to the provisions upon whom the patent is granted rotate around the following five concepts: Patentable subject matter, Inventive step or non-obviousness, Novelty Capable of Industrial application and Utility. In this research, the United States substantive provisions (US) and Pakistan Patent Laws are compared to identifying and examining the disharmonies and diversities in these countries substantive patent laws in the light of the research question. Whether there are diversities in the US and Pakistan's substantive patent laws, and the disharmonies in the US, and Pakistan. For this purpose, this article is divided into five parts.

Keywords: Patent Harmonization, Patentability

1. Introduction:

The objective or things that are qualified for the Patent are called patentable topic. Yet, it should remember that qualification is a fundamental condition, yet it's anything but an adequate condition for privilege. It might say that if an asserted development is a qualified patent topic, it is qualified for the award of Patent gave it fulfills different necessities of patent law. For instance, it is novel, should include an imaginative advance equipped for mechanical application and utility. The TRIPS Agreement gives the base rules to deciding if a development fits the bill for patent security. As indicated by the TRIPS Agreement, an innovation is a patentable topic in the event that it meets the three conditions for patentability under Article 27(1) of the TRIPS Agreement. As per this arrangement, any development, regardless of whether items or cycles, altogether fields of innovation, giving that they are novel, include a creative advance, and are fit for mechanical application.¹

¹Trade Related Aspects of Intellectual Property Rights (Marrakesh, 15 Apr. 1994) 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994), entered enforce 1 January. 1995, Art 27(1).

1.2. United State Law:

United States Patent Act, 1793 provided the four-statutory subject matter category, referenced here, for example, procedure, appliance, production, or configuration of matter.² The Apex Law court in the very first-time measured patent eligibility for procedures in *Cochrane v. Deener*³. In this case, the court characterized the qualified cycle as a demonstration, or a progression of acts, accomplished upon the topic to be changed and diminished to an alternate state or thing, if it is novel and gainful.⁴ The court reaffirmed that a patent could be allowed for an interaction, explaining that an assembling cycle is a craftsmanship inside the law's significance.⁵ The patent-qualified subject matter's premise basis is laid out in US Code, 1935 under section (101)⁶. Under this section, any new and helpful machine, production or structure of issue, or any new and valuable improvement on any workmanship, machine, assembling, or creation of issue, may obtain a patent.

One of the most significant case in the US Patent Law, while restricting the extent of patentable subject matter, is "*Diamond, Commissioner of Patents and Trademarks v. Chakrabarty*"⁷. In this case, he court expressed that anything under the sun that man makes constitutes potential subject matter for a patent.

1.3. Pakistan Patent Law:

Chapter III, section 7 of the Patent Ordinance, 2000⁸ deals with the patentable subject matter. Section 7(2)(4) deals with a list of subject matter that is not qualified for the patent award. For getting a patent, it is essential that the subject matter must not fall under any of the categories referred to in section 7(2)(4). *Earthfactor (Pvt) Limited through Director vs. Patent Office, IPO-Pakistan through Controller, and two others*⁹ Miscellaneous Appeal No. 74 of 2012, decided on 13th March 2014. The court held that the acceptance of the patent of respondent no. 3 for dual SIM deems to be neither an invention nor a novelty. The process or improvement of an old process previously known to the world would not fall within the parameters prescribed under the Patents Ordinance, 2000 for the patent's grant. So herein, the dual number SIM is not patentable under law.

It may be observed from the US, India, and Pakistan perspective the courts have played an essential role in interpreting what constitutes patentable subject matter. The courts have broadened the scope of the patentable subject matter. However, more precisely speaking, the US court said about an inclusive nature of the patentable subject matter instead of the Indian and Pakistan Courts, which focused more upon widening the exclusion list. While the US judiciary created exclusions, but they are referenced under the statute in India, and Pakistan. US has only three exclusions mainly, abstract ideas, laws of nature, and physical phenomena, while India under sections (3), (4), and Pakistan under section (7) have a detailed list of exclusions. Analysis of "patentable subject matter" of US, India, and Pakistan indicates that the US move towards a liberal approach of granting patents. In a way, this approach encouraged the applicant to file and commercialize their invention, which in succession help scientific and technological development.

² Patent Act, 1793, S 1.

³ *Cochrane v. Deener* (No. 94) (1876), 780 district court (Columbia Apex Court, 1876).

⁴ *Ibid.*, 788.

⁵ United States Patent and Trademark office, Report on View and Recommendations from the Public Matter, (USPTO United State, 2017), 5. Available at, <https://www.uspto.gov/sites/default/files/doc/documents/pdf>. Last assessed on 9-10-2020.

⁶ America Investment Act, 1935, S 101.

⁷ *Diamond, Commissioner of Patents and Trademarks v Chakrabarty*, 447 U.S. 303 (1980).

⁸ Patent Ordinance, 2000 (LXI of 2000), S7.

⁹ *Earthfactor (Private) Ltd through Director vs Patent Office, IPO-Pakistan through Controller and two others*, 2014 C L D 897.

2. Novelty

“Novelty” is a prerequisite for a patent case to be patentable. A development is not novel and thusly not patentable on the off chance that it was recognized by the general population earlier, the patent application's documenting date, or before its date of need if the candidate claims need of a previous patent application. The purpose of the curiosity condition is to stop earlier workmanship from being patented once more.¹⁰ In this part, an effort has been made to compare the United States (hereinafter referenced to as US), India, and Pakistan laws on novelty.

2.1. United States' Law

The concept of novelty was presented in the US Patent Act of 1790. But the United States Patent Act of 1793 did away with the examination requirement of the 1790 Act and implemented a registration system. Thus, the Act of 1793 went from a rigid examination system to no examination system at all. The result of the registration system was that it attracted many fraudulent and duplicative patents. It lasted for 43 years until July 4, 1836, when Congress enacted what is generally acknowledged to be the foundation of the modern patent system in the United States. The Patent Act 1836 reintroduced the 1790 Patent Act requirement that patent applications be examined for novelty.¹¹

Section 102(a)(1)¹² provides that an inventor is precluded from the patent if sales, public use, and disclosure occur before the filing date. In other words, unless the inventor has filed the patent application, the amended Section 102 (a) (1) under America Invents Act (hereinafter referenced to as AIA) clearly states that all United States Patent Rights will immediately terminate if, after March 17, 2013, any of the following events takes place:

- Claimed invention is already patented.
- Claimed invention is on sale.
- Claimed invention is in public use.
- Claimed invention is defined in a printed publication.
- Claimed invention is otherwise available to the public.¹³

“United States Patent and Trademark Office's” new section now requires the sale or use to be public expose to disqualify the prior art. It should be noted that under section 102, public use must be public, and sale should not be a trade secret. Thus, the requirement of novelty under new law removes private sales from being a bar to patentability and redoing the current "on-sale bar" to patentability.¹⁴ Any proposal available to be purchased of a development fit to be patented starts the clock on the one-year effortlessness time frame, inside which a patent application on the creation must be documented. In case a designer owns one innovation as a proprietary advantage however subsequently, another innovator files a patent application on the same creation and is conceded a patent. In such a case, the proprietary innovation proprietor will have “prior user defense” against a patent encroachment guarantee. For using earlier craftsmanship defense, it must be plainly shown that there was an inside business sale or use of subject matter by the proprietary innovation proprietor, in any event the year prior to the guaranteed development's powerful documenting date. The person asserting earlier user defense must establish its

¹⁰Sergio Sgambato, Report on Differences of IPR Laws Between Europe and India for European SMEs: How to Tackle Them (2015), 35. Available at, https://www.india.com/REP_Laws_EU/20India_Web.pdf. Last accessed on 10-10-2020.

¹¹Sergio Sgambato, Report on Differences of IPR Laws Between Europe and India for European SMEs: How to Tackle Them (2015), 39. Available at, https://www.india.com/Rep/20/Law_EU/20India_Web.pdf. Last accessed on 10-10-2020

¹²America Invents Act 1935, S102 (a)(1).

¹³America Invents Act 1935, S 102 (a)(1).

¹⁴Todd L. Juneau, “Summary of New United States Patent Law- Summary of Specific American Invention Act provisions”, American Intellectual Property Law Journal 4, no. 3 (1989). See also, <http://www.aipla.org/advocacy/congress/aia/pages/summary.aspx>. Last accessed on 15-10-2020.

defense by clear and persuading evidentiary standard.¹⁵ In short, prior art under section 102(a) (1) includes any publication by anyone, anywhere before the filing date of the subject application and any public use, sale, offer for sale by anyone before the filing date of the subject application.

2.2. Pakistan Law:

In Pakistan, section 8 of the patent law,2000¹⁶ defines “invention”, that an invention ought to be estimated to be novel in the event that it doesn't shape part of cutting edge. Best in class will involve, (a) everything uncovered to the public any place on the planet, by distribution in discernible structure or by oral disclosure, by use or in some other way, past to the recording or, where suitable, the need date, of the application asserting the creation, (b) substance of the expansive determination and need archives distributed under section 21 of an application documented in Pakistan," (c) customarily created or existing information open or in ownership of a nearby or native local area.

2.2.1. State of the Art:

The revelation of a “patentable invention” in respect of goods shall not constitute ‘state of the art’ in the event that an article is shown at an authority or formally perceived global display inside a year going before the date of recording of an application for award of patent. Assume later, the privilege of need is captivated. All things considered, the time frame will begin from the date of presentation as thought about vital, of the character of the article displayed, and the date of its presentation into the show.

2.2.1.1. Judicial Citation: 2014 C L D 897

*Earthfactor (Pvt) Limited through Director vs. Patent Office, IPO-Pakistan through Controller, and 2 others*¹⁷

Held:The “learned counsel” for the appellant has relied upon *AIR 1936 BOMBAY 99*. In which the two features required for the validity of a patent are described as “novelty” and “utility”. But the actual text of the “novelty” of the “invention” is that there must be absenteeism of prior publication or prior public use. The contention of the appellant that double Number SIM is already a known product. Thus, it would not fall in the category of invention or novelty as neither the improvement of such “invention” is new to the world. So, it would not fall under section 8 of the Patent Ordinance, 2002. This invention is known to the world since 1990. The court held that the acceptance of the patent of respondent no. 3 for dual SIM deems to be neither an invention nor a novelty. The process or improvement of an old process previously known to the world would not fall within the parameters prescribed under the Patents Ordinance,2000 for the patent’s grant. So herein, the dual number SIM is not patentable under law.

In Pakistan, “novelty” prerequisite parallels to the clause of “New invention” in the Act.It provides that “invention” should not be estimated either by publication or used anywhere in the universe before filing a patent application.In Pakistan, patent law does not define what anticipation is, but it provides what is not anticipation, and a grace period of twelve months is provided.¹⁸ And Indian Patent Act sections 29 to 34 referenced and explained anticipation. It can be clearly said that the novelty test is categorical in Pakistan and in India than in the United States. The reason is that even if we consider the only bare provision of these three countries Patent Laws. It can easily be found that Indian and Pakistan

¹⁵Prior Art Under American Investment Act. Available at,http://www.uspto.gov/sites/default/files/aia_implementation/fitf_comprehensive_training_prior_art.com. Last visited on 15-10-2020.

¹⁶ Patent Ordinance, 2000(LXI of 2000), S 8.

¹⁷Earthfactor (private) Limited through Director vs Patent Office, IPO-Pakistan through Controller and Two Others, 2014 C L D 897.

¹⁸ Timothy R. Holbrook, “Patent Anticipation and Obviousness as possession”, *Emory Law Journal* 65, no. 4 (2016):987. See also,<https://scholarlycommons.law.emory.edu/elj/vol65/iss4/2>. Last accessed on 17-10-2020.

law covers much about novelty than United States Patent Law. In these unindustrialized countries patent laws, there are provisions regarding an exception to the rule of anticipation, but no such exception provisions are provided under the United States law. In the United States, the criteria of novelty are not limited to the statutes. But, the judiciary also plays a vital role by elaborating on the facts of the case in such a manner that it cannot become rigid for the rights of the original inventor. Judicial pronouncements made in America clearly show that they elastically elaborate the law of novelty. It can be clearly said that the novelty test is categorical in Pakistan than in the United States. The reason is that even if we consider the only bare provision of both the law. It can easily be found that Pakistan law covers much about novelty than United States Patent Law. In Pakistan, for example, there are provisions regarding an exception to the rule of anticipation, but no such exception provisions are provided under the United States law. In the United States, the criteria of novelty are not limited to the statutes. But, the judiciary also plays a vital role by elaborating on the facts of the case in such a manner that it cannot become rigid for the rights of the original inventor. Judicial pronouncements made in America clearly show that they elastically elaborate the law of novelty, such as issues linked to commercial use.

3. Inventive Step/Non-Obviousness

One patentability principle is that a requested "invention" must display a satisfactory "inventive step" or be "non-obvious". The inclusion of such a requirement in the patentability criteria is based on the premise that patent protection should not be given to anything. A person with ordinary skill could deduce an obvious consequence of what is already known to the public.¹⁹ Concerning the common craftsmanship, an innovation that is simply recognizable would contribute almost no to "society". Allowing select patent rights on such a creation with a minor improvement to the current craftsmanship would not help the patent frameworks unbiased. As one researcher expressed that the imaginative advance or non-conspicuousness is in certain regards the central core of patentability, isolating the really inventive good product from the debris of unpatentable minor upgrades.²⁰ Thus, regardless of whether an innovation is a novel, it may not meet the legal necessity on the off chance that it isn't fundamentally not the same as the earlier craftsmanship. It should be extraordinary, not be essentially better. It is additionally called the last guard of the patent framework patented to a person having ordinary skill in the art.

In this part, an effort has been made to compare the United States, India, and Pakistan's laws on the requirement of inventive step or non-obviousness.

3.1. United State (US) Law:

The start of the advanced "innovative advance/non-conspicuousness" idea can be illustrated back to an provision in the French Patent Law of 1791. It gave the quintessence that was just shifting the structure or suggestions of any sort is not assessed to be a development secured by the Patent Law. Supported by the French Law, the 1793 Demonstration of the US contained an arrangement avowing that basically adjusting the structure or the suggestions of any machine, or synthesis of issue, in any degree, will not be assumed a revelation. The articulation "structure or recommendations" is remembered for the laws of those two countries. In any case, they had grown in an unexpected way. In the US of America, courts commonly settled the understanding of the expression "structure or suggestions". Despite the fact that the Patent Demonstration of 1836 dispensed with the legal language notwithstanding licenses on simple changes in structure or suggestions. The absence of a legal language getting licenses on simple changes in structure or recommendations, the lack of a legal arrangement just brought about allowing courts to build up the from or suggestions convention to a considerably more mind boggling and general guideline.²¹

¹⁹World Intellectual Property Organization, *WIPO Intellectual Property Handbook: Policy, Law and Use* (Geneva: World Intellectual Property Organization publication, 2004):225. ISBN: 9289280512915.

²⁰Elizabeth A. Richardson, *Patent Law and Theory* (Cheltenham, UK: Edward Elgar Publishing, 2008):71. See also, <https://www.elgaronline.com/view/9781845424138.00023.xml>. Last accessed on 17-10-2020.

²¹*Ibid.*, 3.

The derivation of the “non-obviousness” prerequisite in the USA is usually accredited to the Apex Court judgment in “*Hotchkiss v. Greenwood*”²². The Apex Court extensively held that each invention should be the invention of more ingenuity and skill than the uncertainty in Hotchkiss, particularly the articulation greater ingenuity and skill. It left courts to determine how much ingenuity and skill was expected to obtain a patent. Their choices were not predictable. As the different interpretations of the norm by courts made lawful uncertainty and raised pragmatic troubles, the US Congress finally stepped in. Its ordered Section (103) of the 1952 Patent Demonstration, which gave that another and helpful development would be viewed as non-patentable in the event that it would have been perceptible at the hour of the invention which was made by an individual having ordinary skill in the art to which held subject matter pertains.²³

In the case of “*Great A&P Tea Co. vs. Supermarket Equipment Corp (1950)*”²⁴, he Congress has interestingly explicitly added a third legal element of no-conspicuousness to the existing two necessities of curiosity and utility that had been the singular legal test since the Patent Act of 1793. This is the trial of conspicuousness, for instance, whether the topic tried to be licensed and the earlier art are to such an extent that the topic all in all would have been evident at the time the invention. It was made to an individual having ordinary skill in the art to which said topic pertains. Patentability will not be negated by the manner in which the invention made under section 103 of the Patent Act, 1952.²⁵

Following are the essential features of non-obviousness as per Section 103.²⁶

3.2. Person Skilled in the Art:

Conspicuousness is extraordinary. It is determined concerning the information on individual skilled in the art. According to "US Patent and Brand name Office" (hereinafter referred to as USPTO), the individual of ordinary skill in the art implies a hypothetical individual considered to have known the important art at the hour of invention. The individual of regular skill in the art should have the option to comprehend the innovative and logical inquiry critical in the art. The degree of ordinary skill will fluctuate depending upon the invention involved. Along these lines, to test the conspicuousness of the asserted invention, court return at the hour of invention and afterward determine by standing in the shoes of an "individual having ordinary skill in the art" (hereinafter referred to as PHOSITA). Whether it was evident for "PHOSITA" to add the earlier art teaching to arrive at the invention.²⁷

In the case of *Custom Accessories, Inc. vs Jeffrey Allan Industries*²⁸, it was held by the Federal Court that that while surveying the degree of standard ability following boundaries should be mulled over. For example, the kind of issue experienced in the workmanship, regardless of whether there is earlier craftsmanship arrangement of that issue, with what speediness the creation is made and what is the instructive degree of person “skilled in the art”.²⁹

In *W.L. Gore and Associates, Inc. vs. Garlock, Inc*³⁰. It was stated that, it is troublesome however vital that the chief should be failed to remember what the individual educated about the guaranteed

²² Hotchkiss v. Greenwood 52 U.S. 248 (1850).

²³ Ibid.,4.

²⁴ Great A&P Tea Co. v. Supermarket Equipment Corp, 358 U.S. 147 (1950).

²⁵ James Boyle and Jennifer Jenkins, *Intellectual Property: Law and The Information Society- Case and Materials*(US: CreateSpace Independent Publishing Platform,2018):746. ISBN: 978-1723494642.

²⁶ The Patent Act, 1952, S 103.

²⁷ James Boyle and Jennifer Jenkins, *Intellectual Property: Law and The Information Society- Case and Materials*,745.

²⁸ Custom Accessories, Inc. v. Jeffrey Allan Industries, 807 F.2d 955(Fed. Cir. 1986).

²⁹ Ibid.,261.

³⁰ W.L. Gore and Associates, Inc. vs. Garlock, Inc, 842 F.2d 1275 (Fed. Cir. 1988).

creation and set his brain back to when asserted innovation was made, to consume the psyche of the mind of one skilled in the art.

To determine no-obviousness, the test laid down by Apex Court in *Graham v. John Deere Co.*³¹

Clark J. held that no device is patentable if it is an obvious extension of the art state for that kind of device. Section (103) of the Patent Act, 1952, clearly provides that a patent would not be granted in designs if it is obvious to the person skilled in the relevant field of design. This section includes codification to the long-standing judicial requirement that it must be something more than the ordinary skill found in the relevant field for a device to be patentable. There must be a higher level of ingenuity. Work must be the product of an inventor and not a result of a skilled mechanic. In this case, the Patent Office believed the chisel in question is not a leap forward in design technology, but it is a logical improvement that can be designed by anyone skilled in that art. This finding leads to the conclusion that the chisel in question is not patentable. Hence, the device is not patentable if it is an obvious extension of state of the art. The Apex Court laid down three factors for analyzing obviousness:

- I. To determine the scope and content of the prior art, it is necessary to achieve a detailed understanding of the invention to understand the inventor's invention. The invention's scope will be ascertained by giving the patent claims submitted the broadest reasonable interpretation that is consistent with the overall articulation of the invention.
- II. It requires the language of the claim to be interpreted and to consider invention and prior art.
- III. The person skill in the art is the one who is presumed to know the relevant art at the time of invention.

In the case of *Hotchkiss vs. Greenwood*,³² Court, for the first time, introduces the concept of non-obviousness. Hotchkiss claimed that his invention improved the manufacture of clay or porcelain knobs, like doorknobs. This improvement was reached by coinciding with the hole where the screw needs to be inserted by making it largest at the bottom and then pouring the metal into the hold to form the screw. Defendant argued that improvement was obvious and thus patent should not be granted. The Court told the jury that the patent would be invalid, if it found that such knobs had been manufactured in a like manner by using wood, metal, or other material other than clay or porcelain. The jury creates for the defendant, and the plaintiff then claimed the findings were incorrect and moved for a new trial.

Issue: If an old device were improved by substituting a different material, would it be a valid patent?

Held:

When a patent only improves the old device by replacing it with the material which is better suited for the device is not valid. The porcelain or clay knobs manufactured by the plaintiff may have more durability as it fastens the shank to the knob. All things considered, the impact would be the equivalent in knobs made of wood, and its technique was at that point known and utilized regularly with wooden knobs. Accordingly, the improvement is crafted by an able specialist and not of the designer. The judgment for the respondent was certified.

In the US, non-obviousness is dictated by contrasting the condition of the earlier craftsmanship and asserted creation. PHOSITA assumes a definitive part here. It gives that if the distinction between the asserted topic and the earlier workmanship is irrelevant, it is perceptible to an individual skilled in the art. In such a case, it does not meet the requirement of non-obviousness. In simple words, non-obvious requirement in United States requires that claimed invention must not be an obvious extension of the prior art.

³¹Graham v. John Deere Co, 383 U.S.1 (1966).

³²Hotchkiss v. Greenwood, 52 U.S. 248 (1850).

3.3. Pakistan Law:

Under Pakistan Patent Law Ordinance, 2000, Section 9 explains Inventive Step³³. An invention shall be measured as involving an inventive step if it has not been obvious to a person prior to the date of application for a patent. To be patentable, the new subject must contain invention over what is old. A patent for the new use of a known contrivance without any additional ingenuity in overcoming fresh difficulties is not an invention. If the new use involves no ingenuity but is in manner and purpose is analogous to the old use, although not quite the same, there is no invention. There must be a substantive change or development or addition in the prior art.

The United States Patent law uses the term non-obviousness while the term inventive step is used by Indian and Pakistan Patents law. It may be noted that non-obviousness may only be an element. For example, under Indian and Pakistan Patent laws, the examiner fixes the contrasts between the invention and the earlier craftsmanship. On the off chance that there isn't anything, the invention isn't novel. The inspector figures out what specialized issue is addressed by adding these components to the earlier craftsmanship framework. He at that point decides whether tackling the specialized issue by adding those components would be self-evident. On the off chance that no specialized issue can be discovered, the invention doesn't include an inventive step. In the US, the analyst unswervingly moves to characterize whether it is observable to add the novel components without building up a specialized issue.³⁴In Pakistan and India, there is no uniform test to determine the criteria of the inventive step. Although specific criteria for determining inventive steps have been laid out, it cannot be equally applied in each case, and thus it varies on a case-to-case basis. Concerning a person skilled in the art, it is still the question of fact to be established as to the extent of a person skilled in the art and what kind of common general knowledge he is required to have while assessing the inventive step criteria.

4. Capable of Industrial Application

This requirement requires that the "invention" must be proficient of either being made in industry or being castoff in the commerce. This condition seems to be that an invention that cannot be made if a product or cannot be used if a process in an industry is not an invention for the purpose of the patent.³⁵ The objective is that protection for patents should be available for purely intellectual creations or abstract ideas that cannot be put into any use. The requirement of industrial applicability is utilized as an edge for barring a few inventions from patentability.

In this part, an effort has been made to compare the United States and Pakistan's laws on the requirement of capable of industrial application.

4.1. Pakistan Patent Law:

Under section (10) of the Patent Ordinance 2000,³⁶An invention shall be capable of industrial application if it is skilled of being manufactured or otherwise industrially used. The requirements throw the light on the patent system's aims and objective by providing patent protection to only those invention that are useable or capable of industrial use. It aids the patentee in deciding as in what stage of the invention process an application for a patent must be filed. In simple words, if the invention is still at the theoretical stage irrespective of its advancement, it will be premature to make an application for a patent if its industrial applicability is yet to be demonstrated.

The expression "capable of industrial application" is industry driven. It ought to be noticed that it gives that industry should be skilled modern application and not that invention should have a mechanical

³³Patent Ordinance, 2000 (XLI of 2000), S 9.

³⁴Determining Validity of Patent. Available at, <http://www.iusmentis.com/patents/faq/validity/>. Last accessed on 26-10-2020.

³⁵Determining Validity of Patent. Available at, <http://www.iusmentis.com/patents/deetermining/validity/>. Last accessed on 26-10-2020, 144.

³⁶ Patent Ordinance 2000, S 10.

application. It implies that invention, which can't be made in the event that it is a product or on the off chance that it is a cycle in an industry isn't viewed as an invention with the end goal of the patent law. Nonetheless, the term business isn't characterized under the Patent Mandate and henceforth it very well may be utilized from a nonexclusive perspective. The term business incorporates any pragmatic and helpful, as particular from stylish action or scholarly action. It decides if an invention is valuable to the value of award of patent. The necessity of modern application isn't satisfied if there is a speculative and obscure particular showing conceivable target which may or probably won't be feasible via completing further exploration. For instance, expressing that invention would be extremely valuable and gainful for movement when people live on the moon would be considered to have needed mechanical appropriateness as it refers to future utilization of invention. The necessity that invention can be utilized or made in any sort of industry, to be fit for modern application conveys the implication of assembling or exchange its broadest sense.³⁷

4.2. Requirement of Utility

An appealed invention must be beneficial to be patentable. This requirement secures a *quid pro quo* for society. It ensures that invention must function its intended purpose or in other words, claimed invention is operative.³⁸

In this part, an effort has been made to study the United States requirement of utility and compare it with Pakistan and India's industrial applicability requirement.

4.3. United States Law:

The requirement of utility has its derivation from article (1), section (8), clause (8) of the constitution³⁹, which indicates that the purpose of empowering Congress to authorize the granting of a patent is to indorse the growth of advantageous arts.⁴⁰The utility is the minimal requirement for patentability. It provides that invention must be capable of some beneficial use. United States law requires that an invention must function as described in the patent application. US law also requires that an invention must be capable of some beneficial use. But it is not easy to define this requirement. The courts have interpreted the requirement of utility in many cases.

In *Lowell vs. Lewis's case*⁴¹, In this Justice Story defined that useful invention as one which may be applied to a convenient use in society, in contradiction to an invention injurious to society's morals, health, and good order, or frivolous and insignificant. The word "useful" is thus used in the Act in contradiction to mischievous or immoral. The definition of utility is used with the concept of morality which permits patent grants to invention if they are not harmful to society.

In Case *Brenner v. Manson*,⁴² Justice Fortas also pointed out that the requirement of utility confirms that a patent is "*not a reward for the search, but the compensation for its successful conclusion*".⁴³

³⁷Jhon Adam, "Eligibility for Patent and Industrial Applicability", *Journal of intellectual Property Law and Practices* 5, no. 2 (2009): 98. See also, https://www.jpo.go.jp_150708/03-0. Last accessed on 2-11-2020.

³⁸Rahul Donde, "What are Patents? What are the requirements of patentability? Can software be patented", *Journal of Law and Business* 7, no. 3 (2014): 729. See also, <https://www.scribd.com/138308416.com> Last accessed on 2-11-2020.

³⁹ Constitution of the United States, 1787, Art 1 (8) (8).

⁴⁰Robert Harmon, *Patent and The Federal Circuit* (Washington D.C, 2011), 39. ISBN: 978-161746659.

⁴¹*Lowell v. Lewis*, 15. F. Cas. 1018.

⁴²*Brenner v. Manson*, 383 U.S. 519 (1966).

⁴³Sheldon W. Halpern, Sean B. Seymore and Keneth Port, *Fundamentals of United States Intellectual Property Law* (UK: 2015), 259. See also, moritzlaw.osu.edu. Last accessed on 15-11-2020.

5. Disharmony:

In the United States, utility is used in much broader sense than industrial applicability. Due to judicial decisions and the United States Patent and Trademark Office (hereinafter referenced to as USPTO) practices, the patent subject matter in the United States has expanded over the years. It describes that industrial applicability is not coextensive with the requirement of utility. The definition provided under section (101) of United States Code, 1935, is the negligible definition and the legal proclamation and assessment rules have additionally enlightened the possibility of utility. In Pakistan, the requirement of utility corresponds to the industrial capability requirement. Which, unlike the United States, require invention to be equipped for being made or utilized in industry. Courts notwithstanding, while at the same time deciphering, concurred that the boundaries of the invention being made or utilized in industry are expansive. In the US, the prerequisite of utility is more liberal and licenses protecting of an invention on the off chance that it is valuable.⁴⁴

The requirement of industrial applicability is often linked to the concept of technical effect which is elaborated under Pakistan law. However, no definition of technical effect is provided. The technical effect is connected to the technical contribution that has been defined as an input to state of the art in a technical field which is not noticeable to person skilled in the art. The invention should be capable of being used in any kind of industry, including agriculture. Members differ in their treatment of industrial applicability. In the United States, an inventor can get patent on certain development that does not result in more extensive than the mechanical materialness idea of Pakistan and India. The US rule permits the patentability of test inventions that can't be made or utilized in industry or don't create any specialized impact. These less rigid necessities can be demonstrated by the way that the US government awards a large number on a technique for working together and examination instruments.⁴⁵

The US is viewed as an innovator in the assurance of protected innovation. It unequivocally underpins the insurance for all topic whether or not there is a specialized perspective, or the invention is in innovative expressions. The USPTO gives licenses to inventions that are helpful and gives a pragmatic application, and it should create a substantial, valuable and solid outcome. The United States argued that the inclusion of requirement technical or industrial that it will cause the standards for protection for invention throughout the world will degrade.⁴⁶

Unlike the United States law, Pakistan has no direct analogy on enablement, although aspects of sufficiency of disclosure can clearly be used to ground similar attacks. Under section (112), the United States Patent Law requires the inventor to include the best way to practice the patent application invention. In India, section 10(4)(b) of the Patents Act, 2005 (amended) provides that an applicant to reveals the best method of performing the invention which is known to the applicant. It should describe them all. On the contrary, in Pakistan, there is no such prerequisite. In any event one method of working the invention should be remembered for the application, however nothing states that this way should be the most ideal way.⁴⁷

In a nutshell, today, under the patent law a patent candidate is qualified for patent if his invention is new, valuable, sufficiently unveiled, non-self-evident, and fits inside the legally characterized topic. These requirements of patentability ensure *quid pro quo* for the society. The requirement of disclosure

⁴⁴ United States Code, 1935, S 101.

⁴⁵ Kaufman Rebecca and Rich Miller, "Feasibility of a Global Patent System Substantive Harmonization is More Likely than a Single Universal Structure", *Journal of International Intellectual Property Law Review* 3, no. 4 (2010):76. See also, <http://www.genengnews.com/gen-articles>. Last accessed on 15-11-2020.

⁴⁶ Gary Samuels, "The United States Patent Policy v. The Harmonization Treaty Patent Policy", *Journal of patent & Trademark Office Society* 75, no.9 (1993): 508. See also, <https://escholarship.org/uc/item/3107d3jvn>. Last accessed on 15-11-2020.

⁴⁷Gregory A Stobbs, *Business Method Patents* (New York, 2016), 247. ISBN: 978-073552158.

ensures that the patentee discloses to the public how to make and uses the patented invention so that person of ordinary skill and art can improve upon or design around the patentee's claimed invention as it would be irrational to grant a patent on an invention that already exists. The novelty requirement assures that the inventor has contributed something new to the society, which is unknown or used previously. The requirement of non-obviousness is built upon the novelty requirement. It raises the patentability hurdle by denying patents to such invention which are obvious to the person of ordinary skill and art. Utility requirement requires that in exchange for patent protection, an applicant to disclose his invention, which is operative and useful. Lastly, an invention must fall within the statutorily classified subject matter. These requirements ensure that an applicant for a patent must have a genuine contribution to society in exchange for patent protection.

This shows the existing disharmony in the United States, India, and Pakistan's substantive patent laws. Pakistan law is quite like Indian Patent law and different from United States law. **Conclusion:**

First, there is a difference in approach. There are no statutory exclusions provided under the United States Patent Law. However, Judiciary has provided three exclusion, namely, laws of nature, natural phenomenon, and abstract ideas. The Patent Law of Pakistan itself provides a list of exclusion. Second, significant disharmony is regarding the technical character of the invention. Pakistan do not provide patent protection to per se business methods and computer programs. They require invention to provide technical contribution or solve a technical problem. But no such prerequisite exists in the United States Patent Law. Third, nature doctrine is also a base of disharmony. The United States grants a patent to living organisms produced by biotechnology. They argue that it involves the re-composition of chemical and physical properties. It is the composition of matter within the meaning of patentable subject matter. If there is a human intervention that causes enhancement of its efficacies, then it can be patented. In contrast, Pakistan law relies on the doctrine of the product of nature.

Fourth, In Pakistan, a patent grant can be denied if commercial manipulation of the invention is contrary to public policy or morality. But the United States has no such provision regarding morality in its Patent Law. The scope of the patent grant is extensive in the United States when compared to other countries. The fifth disharmony is with respect to the inventive step. Pakistan patent law provides that an invention will involve an inventive step. If it resolves a technical problem in a non-obvious way. The discovery of a new form of a known substance, not having any enhanced known efficacy, may be patentable in the United States. But may not be patentable in India and Pakistan. Sixth, the disharmony about industrial applicability or utility. The Pakistan and Indian law are stricter it provides that inventions must be capable to be made or used in the industry. While the United States Patent Law only requires an invention to be useful. So, United States Law has broadened the scope of the patent grant.

It may be concluded that every country has its own patent law. It can be stated that Pakistan Patent Law is quite like the Indian Patent Law but quite different from the United States Patent Law. When someone wants a patent in a particular country, he also must satisfy the substantive criteria of that country. Furthermore, it may be concluded that the minimum standard set out in the peaceful accords has gotten a type of harmonization patent laws of nations. Be that as it may, patent acts of these countries, vary fundamentally. This is on the grounds that huge prudence is given to signatory nations in deciding how they select to work and execute their particular patent framework in line with their individual requirements. Henceforth, it can be said that the provision of countries except in some cases are similar, but that few differences appear very large from the industrial point of view. This research article has uncovered the existing areas of conflicts between United States and Pakistan on patent laws. There is a need to amend the Pakistan Patent law according to the development in technology because the provisions of Patent ordinance 2000 do not covered all the innovations which are patentable in other countries law like US. Pakistan is recommended to sign other international treaties such as PCT, PLT and should take part in the debate of substantive patent law treaty to highlight the patentability issues of developing countries.

Bibliography:

1. America Investment Act, 1935, S 101.
2. Cochrane v. Deener (No. 94) (1876), 780 district court (Columbia Apex Court, 1876).
3. Custom Accessories, Inc. v. Jeffrey Allan Industries, 807 F.2d 955(Fed. Cir. 1986).
4. Determining Validity of Patent. Available at, <http://www.iusmentis.com/patents/faq/>
5. Diamond, Commissioner of Patents and Trademarks v Chakrabarty, 447 U.S. 303 (1980).
6. Earthfactor (Private) Ltd through Director vs Patent Office, IPO-Pakistan through Controller and two others, 2014 C L D 897.
7. Elizabeth A. Richardson, *Patent Law and Theory* (Cheltenham, UK: Edward Elgar Publishing, 2008):71. See also, <https://www.elgaronline.com/view/9781845424138.00023.xml>. Last accessed on 17-10-2020.
8. Graham v. John Deere Co, 383 U.S.1 (1966).
9. Great A&P Tea Co. v. Supermarket Equipment Corp, 358 U.S. 147 (1950).
10. Hotchkiss v. Greenwood 52 U.S. 248 (1850).
11. James Boyle and Jennifer Jenkins, *Intellectual Property: Law and The Information Society- Case and Materials* (US: CreateSpace Independent Publishing Platform,2018):746. ISBN: 978-172349.
12. James Boyle and Jennifer Jenkins, *Intellectual Property: Law and The Information Society- Case and Materials*, 745.
13. Jhon Adam, “Eligibility for Patent and Industrial Applicability”, *Journal of intellectual Property Law and Practices* 5, no. 2 (2009): 98. See also, https://www.jpo.go.jp_150708/03-0. Last accessed on 2-11-2020.
14. The Patent Act,1793.
15. Patent Ordinance,2000 (LXI of 2000)
16. Prior Art Under American Investment Act. Available at, <http://www.uspto.gov/sites/defaults>
17. Sergio Sgambato, Report on Differences of IPR Laws Between Europe and India for European SMEs: How to Tackle Them (2015), 35. Available at, https://www.india.com/REP_Laws_EU
18. Timothy R. Holbrook, “Patent Anticipation and Obviousness as possession”, *Emory Law Journal* 65, no. 4 (2016):987. See also, <https://scholarlycommons.law.emory.edu/elj/vol65/iss4/2>. Last accessed on 17-10-2020.
19. Trade Related Aspects of Intellectual Property Rights (Marrakesh, 15 Apr. 1994) 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994), entered enforce 1 January. 1995, Art 27(1).
20. United States Patent and Trademark office, Report on View and Recommendations from the Public Matter,(USPTO United State,2017), 5. Available at <https://www.uspt.gov/sites/default/files/doc/documents/pdf.Last> assessed on 9-10-2020.validity/.Last accessed on 26-10-2020.
21. W.L. Gore and Associates, Inc. vs. Garlock, Inc, 842 F.2d 1275 (Fed. Cir. 1988).
22. World Intellectual Property Organization, *WIPO Intellectual Property Handbook: Policy, Law and Use* (Geneva: World Intellectual Property Organization publication, 2004):225. ISBN: 9289280512915.
23. Rahul Donde, “What are Patents? What are the requirements of patentability? Can software be patented”, *Journal of Law and Business* 7, no. 3 (2014): 729. See also, <https://www.scribd.com/138308416.com> Last accessed on 2-11-2020.
24. Constitution of the United States,1787, Art 1 (8) (8).
25. Robert Harmon, *Patent and The Federal Circuit* (Washington D.C, 2011), 39. ISBN: 978-161746659.
26. Lowell v. Lewis, 15. F. Cas. 1018.
27. Brenner v. Manson, 383 U.S. 519 (1966).
28. Sheldon W. Halpern, Sean B. Seymore and Keneth Port, *Fundamentals of United States Intellectual Property Law* (UK: 2015), 259. See also, moritzlaw.osu.edu. Last accessed on 15-11-2020.

29. Gary Samuels, "The United States Patent Policy v. The Harmonization Treaty Patent Policy", *Journal of patent & Trademark Office Society* 75, no.9 (1993): 508. See also, <https://escholarship.org/uc/item/3107d3jvn>. Last accessed on 15-11-2020.
30. Gregory A Stobbs, *Business Method Patents* (New York, 2016), 247. ISBN: 978-073552158.