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Analysis of Patentability by Applying Inverse Proportionality Criteria

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ABSTRACT: The patentability criteria are the criteria for satisfying novelty, non-obviousness and industrial applicability for the granting of patent all should be present in an invention for patent grant. The present equation use to analyses the patentability criteria with respect to a number of patent filling in the same technology domain in which by increasing the number of the patent in that technology field then the technology gap start reducing in the same technology which is identifying by implementing the numeric calculation between the patentability criteria and a number of patent filling. Moreover, the reduction of patentability criteria is identifying by putting the value of the number of the patent in the equation and checks the result of those substituting value in the equation in graphical representation. It is also defined by the graphical representation which indicates that patentability criteria are reducing by increasing the number of the patent in the same technology field due to which the boundary between the novel features becomes narrow in the scope of the invention. Thus, by increasing the number of the patent in those field patentability criteria is starts reducing from infinity to 1 or high to a low value which is shown in the graphical plot.

KEYWORDS: Patentability, Inverse Proportionality Criteria, Patent, Invention

I. INTRODUCTION

The present technique pertains to the analysis of patentability criteria in which the patentability criteria is reducing by increasing the number of patent filing by identifying the novelty non-obviousness and industrial applicability criteria, wherein if the anyone of the patentability criteria is such as novelty, non-obviousness, and industrial applicability do not present so the invention is not patentable subject matter for obtains grant to the patent it is necessary to comply patentability criteria .

Novelty: the Patent protection of invention only be grant to the invention if the invention is new means the invention not be disclosed anywhere in the public or nothing should be anticipated in anywhere in the world or invention should not be disclosed in public before filling the patent. If any prior art present with that feature than that prior art considered novelty destroying so no prior art should be anticipated to destroy the novel feature of the invention. Novelty is the primary factor to identify invention is patentable or not. if the invention passes the novelty test then only proceed for patentability Wherein there are cases of novelty destroy the patent should not be anticipated by any document before filing the patent, the patent should not be public display before filing the patent, the patent should not be public working before patent filling except in the case for trials regarding the research-based[1][2].

Non-obviousness: non-obviousness or inventive step is another criteria of patentability in which it needs to identify the invention is having technical advancement present over the existing state of the art which includes the sufficient distance from the state of art for the person skilled in the art it is to be defined as if invention pertains to any specific technology domain so it is not necessary everyone should understand the invention but a person skilled in that domain should understand that invention. If any product not having technical advancement that is not to be for grant of patent[2]–[4].

Industrial applicability: the invention must be capable of industrial applicability for the eligible patent subject matter. A patent can only be granted for an invention which is having industrial applicability. Sometimes industrial applicability also known as a utility in which invention make or use by industry every invention should have industrial applications in order to grant the patent[5].



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Sufficiency of disclosure: according to sufficiency disclosure the patent application must disclose the patent application in sufficient detail for the person skilled in the art in order to carry out the invention. The sufficiency of disclosure pertains to the disclosure of that patent by which invention my made or performed by the person skilled in the art the disclosure of the invention is sufficiently clear and complete to understand for the person skilled in the art[6].

State of art: the state of art pertains to prior knowledge which includes everything disclosed prior including patent and not-patentable literature, any evidence of invention already known to the public, any product that is most obvious from the prior art or any previously known knowledge. Furthermore, the state of art is the highest level of the general development of technology and ideas. If any technology newly developed and provide the surprising result that will be added to the state of art to provide an inventive step[7].

Patentability criteria: patentability criteria include novelty, non-obviousness, and industrial applicability in which anyone is not satisfying the criteria so the invention is not the patentable subject matter. All the criteria of establishing in the form of products and multiple of each other in order to satisfy patentability criteria all three criteria should be present[8]. Furthermore, the present analysis is used to identify the patentability criteria which is reducing by increasing the number of patent filling in that particular technology field so by increasing number of the patent the novelty and non-obviousness criteria start reducing by means of patentability criteria is inverse proportional to the number of patents filled in that field.in the present analysis, it is also observed that if the number of patents filled in the same technology the technology gap or white space in that technology starts reducing even if patent filled by different person. the present patentability criteria include the novelty, non-obviousness criteria in which novelty and non-obviousness of the invention are reducing due to increasing the number of patenting activity in the same technology field due to narrowing the scope of the patent claim.

II. RESEARCH QUESTION

- 1) How to present technique can easily be understood by other person who not is person skilled in the art?
- 2) Does the present technique identifying the number of granting patent with respect to patentability criteria.

III. REVIEW OF LITERATURE

Various research have been done in the field of patentability criteria which include the numeric mathematical model with graphical representation in equation form the invention is patentable subject matter is applying by fulfilling the patentability criteria such as novelty non-obviousness and industrial applicability the novelty criteria should be satisfying by no anticipation of previous document or any prior art document in the invention and invention should not be public disclosed in anywhere in the world or not to be disclosed by public working in any way there are the two type of novelty absolute or relative novelty in the absolute novelty nothing should be present in the prior art in the relative novelty prior art may be present in relative form[9]. Another criteria of patentability is the non-obviousness in which technical advancement of invention should be present over the existing state of art if the invention related to any specific field so it is not necessary anyone can understand the invention but person skilled in that technology field should be understand it. Moreover, another criterion of patentability is industrial applicability in which the invention should be made or use by industry in order to grant the patent[9].

The invention can be patentable if it qualifying the test of novelty non-obviousness and industrial applicability, wherein the novelty criteria include the concept the invention is new if it is not known by the prior art of the invention in any public document or in any prior knowledge. Novelty testing is carried by a set of an essential feature specified in the independent claim by comparing the set of the feature with the prior document.

The non-obviousness criteria are defined in the term of the advancement of technology in the particular field over the state of art it is carried out the adequate distance from the state of art in order to determine the advancement of the technology concept in the given field. In other word non-obviousness criteria fulfilling by claimed invention by considering to involve an inventive step in the invention patentable subject matter .In considering inventive step is distinct from novelty, it is permissible to combine two or more concept or combining the teaching of two or more prior art references only where those combinations would be obvious to the person skilled in the art[3][10].



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IV. METHODOLOGY

The present analysis pertains to the identifying the reduction of the patentability criteria such as novelty non-obviousness and the industrial applicability by increasing the number of subsequent filling of the patents, wherein each new patent which is filing one after other reduce the scope of the invention and patentability criteria each new invention include novel and non-obviousness feature which provide the difference from the prior invention so each new patent reduces the patentability criteria in term of the scope of claims .If a large number of subsequent filling of patent present in the one technology domain so the patentability criteria become very less because each patenting activity requires new technology in the field so the patentability criteria reduce in term of novelty non-obviousness and industrial applicability. If anyone criteria of both novelty non-obviousness and industrial applicability are not present then the invention is not the patentable subject matter

Instrument:

The presence or absence of patentability criteria determined in term of novelty non-obviousness and industrial applicability, wherein if novelty present it is assumed to be equal to 1 and if novelty not present it is assumed to be equal to 0 if non-obviousness not present it is assumed to be equal to 0 if non-obviousness present it is assumed to be equal to 1 if the industrial applicability is present it is equal to be 1 if industrial applicability not present it is assumed to be 0 if all three are present then only the equation for satisfying the patentability criteria .furthermore in the preceding the n indicates that the number of patent filing and proceeding and the n/n-1 indicated that the total number of granting patent by reducing patentability criteria.

Data Analysis:

Patentability criteria = (novelty × non obviousness × industrial applicability)

Patentability criteria decreasing by increasing number of patent grant in the same technology.

$$\frac{n}{n-1} = \text{Patentability criteria}$$

If Novelty present it is indicated by 1

If Novelty not present it is indicated by 0

If non-obviousness present it is indicated by 1

If non-obviousness not present it is indicated by 0

If industrial applicability present it is indicated by 1

If industrial applicability not present it is indicated by 0

N= Number of patent filled in that field or number of patent applying for grant.

If the novelty, non-obviousness and industrial applicability all three present than only patentability present otherwise patentability not present.

Consider the patentability criteria are present for all three such as novelty =1, non-obviousness 1 and industrial applicability = 1.

Assume novelty, non-obviousness and industrial applicability is present so assume it is 1 for all cases

Assume n=0 number of patent filling is =0

$$\frac{0}{0-1} = \text{Patentability criteria}$$

0 = Total zero number of patent filled in that field

Patentability criteria reducing by increasing the number of patent in that particular technology field

So patentability criteria \propto^{-1} Number of patent.

$$\text{Patentability criteria} = \frac{N}{N-1}$$

N=Number of patent

Thus patentability reducing by increasing number of patent.

Assume

N=1

$$\text{Patentability criteria} = \frac{N}{N-1}$$

N=Number of patent=1

$$\frac{1}{1-1} = \infty$$

If number of patent filed is 1 there are so much possibility to file n =∞ number of patent in that field.



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Assume $n=2$

$$\text{Patentability criteria} = \frac{N}{N-1}$$

$N = \text{Number of patent} = 2$

$\frac{2}{2-1} = 2$ by increasing the value of n so the patentability criteria start reducing

Assume

$N=3$

$$\text{Patentability criteria} = \frac{N}{N-1}$$

$N = \text{Number of patent} = 3$

$$\frac{3}{3-1} = 3/2 = 1.5$$

By increasing the number of patent the patentability criteria start reducing in that technology field.

Assume

$N=4$

$$\text{Patentability criteria} = \frac{N}{N-1}$$

$N = \text{Number of patent} = 4$

$$\frac{4}{4-1} = 4/3$$

$$= 1.3333$$

By increasing the number of patent the patentability criteria start reducing in the same technology domain.

Assume $n=5$

$$\text{Patentability criteria} = \frac{N}{N-1}$$

$N = \text{Number of patent} = 5$

$$\frac{5}{5-1} = 5/4$$

$$1.25$$

By increasing the number of patent the patentability criteria start reducing in the same technology domain.

Number of patents

Assume $n=6$

$$\text{Patentability criteria} = \frac{N}{N-1}$$

$N = \text{Number of patent} = 6$

$$\frac{6}{6-1} = 6/5$$

$$1.2$$

By increasing the number of patent the patentability criteria start reducing in the same technology domain.

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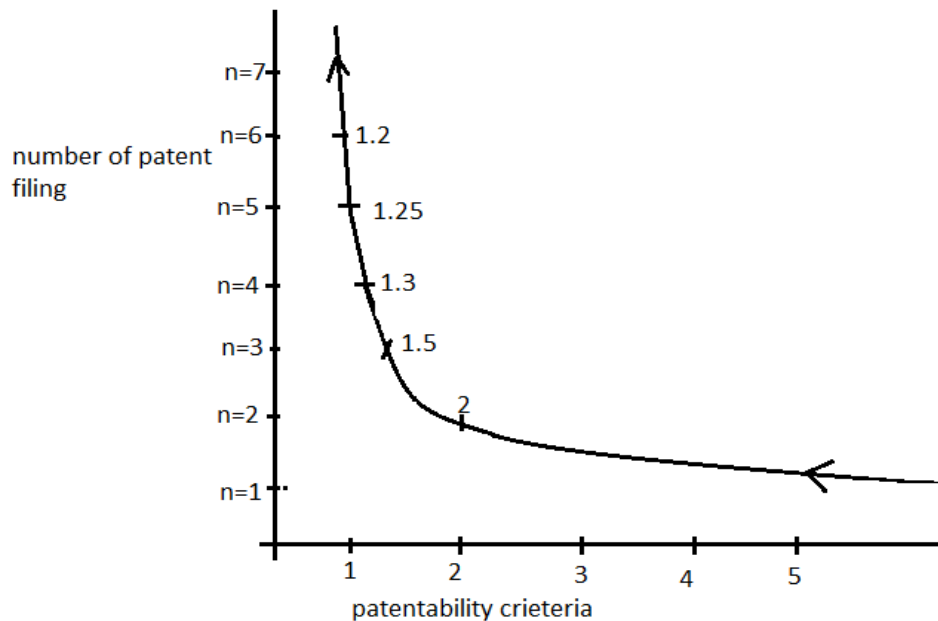


Figure 1: Graphical Representation of Patentability Criteria

So from the above equation in Figure 1 it is prove that patentability criteria is reducing by increasing number of patent in the same field

V. RESULT

The present technology pertains to the patentability criteria in which novelty non-obviousness and industrial applicability criteria should be satisfied as we know if anyone criteria of novelty non-obviousness and industrial applicability are not satisfied the technology is not patentable subject matter from the above equation it is determined that by increasing the number of the patent in the one technology field the technology gap is reducing in that field by means that by increasing the number of patenting activity the technology gap reduces in that field and criteria of novelty and non-obviousness also reduces.

Patentability criteria \propto ⁻¹ patenting activity

The present equation pertains to identifying the patentability criteria in which the patentability criteria increase or decrease by increasing or decreasing the number of the patent in that particular field if the number of patents increasing that is indicated by N (N= number of the patent) which is increasing or decreasing to identifying the patentability criteria by putting the value in the equation mentioned as N/N-1 so if the value of N is increasing the patentability criteria start reducing example for n=1 there are the so much chances n number of the patent can be filled in that technology field if the n=2 there is the 2 number of the patent can be filed in that technology field if n=3 so the total n=3/2 number of the patent can be filed in the same technology domain so from the above quantitative analysis it is identified that by increasing the number of the patent that technology field the patentability criteria start reducing for that same technology field.

From the above equation it is identifying that if the number of patent increasing in the one technology field so the patentability criteria start reducing in that that technology field mentioned in the graphical plot wherein the patentability criteria reducing from infinite to value of 1 shown in the graphical representation in which shown by increasing the number of patent n=1,2,3,4,5 the value of the patentability criteria is start reducing as shown in the above graph the value of number of patent at 1 the value of patentability criteria is infinite means n number of modification can happen with one patentable technology field and then after if the number of patent is increasing the probability of modification start reducing example at n=2 the modification shown 2 value of patentability criteria in the x-axis at the n=3 at y-axis the so the patentability criteria reduced to n=3/2 similarly if n=4 the patentability criteria



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reduced to $4/3$ so by increasing the number of patent as shown in graph patentability criteria start reducing till value of 1. The present mathematical model provides the quantitative analysis of patentability criteria which is identified by increasing or decreasing the number of patent in one particular technology field.

VI. CONCLUSION

The present equation pertains to identifying the patentability criteria which is using a mathematical model to identify the patentability criteria by applying the inverse proportionality equation in which if the number of patents increases then the patentability criteria start reducing by reducing the novelty, non-obviousness and industrial applicability criteria. Due to repetition of concept thus the patentability criteria is inversely proportional to a number of patent filing in the same technology domain or by the increasing of the number of the patent in the same technology field the scope of technology start reducing due to which technology concept start repeating and not able to satisfied novelty, non-obviousness and industrial applicability which is the primary factor to examine the invention.

The present technique uses to identify the patentability criteria in the presence of the number of patents applying for a grant wherein if the number of patents is increasing so the patentability criteria are starting reducing which is shown in the graphical model. The present equation identifies that the inverse proportionality criteria in which if number patent increasing on $n=1, n=2, n=3, n=4, n=5$ the graph showed the number of patent filing is increasing and shown that the number of patents increasing so the patentability criteria start reducing for the same technology field which is shown that number of patentability decreasing by infinity to 1. So that the graphical analysis and numeric calculation proof that patentability criteria is reducing by increasing the number of patenting activity.

The present equation subject to various modification alterations and changes by the person skilled in the art to develop the new concept and ideas. The present equation use to identify the patentability criteria by applying the inverse proportionality criteria between the number of patents filed and patentability criteria of novelty, non-obviousness and industrial applicability in the same field by inserting the value in $N/N-1$ to determine how many numbers of patent filled in the same technology field and how much patentability criteria reduced for that technology.

The present equation can apply to many changes for identifying the patentability criteria with respect to patentability criteria in the present equation it is determined the patentability criteria is reducing by increasing the number of patent filling. If the patent filling is more so the technology gap is starting reducing and the reduction of technology gap indicates that patentability criteria are reducing by increasing the patent fillings.

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