



**Article:** Framework of Approaches to Inventive Step Assessment

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## Table of Contents

1. Introduction.....	3
2. Inventive Step Assessment in EPO.....	3
3. Inventive Step Assessment in US .....	5
4. Inventive Step Assessment in Japan .....	6
5. Inventive Step Assessment in Korea .....	6
6. Inventive Step Assessment in Thailand .....	6
7. Inventive Step Assessment in India .....	6
8. Inventive Step Assessment in China .....	6
9. How we help our Clients.....	7
10. Conclusion .....	7
11. Sources & References.....	8

## 1. Introduction

**I**nventive step is one of the essential requirements for an invention to be patentable. The assessment/evaluation of inventive step is critical as well as challenging, irrespective of the fact whether you want to acquire or oppose a patent. The approach used for its assessment is quite ambiguous and varies from one geography to another. The present article is aimed at understanding and briefly summarizing the approaches followed by some of the major patenting systems for the assessment of inventive step.

Majority of the inventions are built upon the prior art, either by adding new features/elements or by combining known elements in novel ways. Therefore, we can safely assume that an invention typically comprises of knowledge gained from the prior art (i.e. State of the Art) and an additional component (i.e. improvement/modification/new feature) contributed by an inventor. Now, if the inclusion of this additional component is obvious to the person having ordinary skill in the art (PHOSITA), the invention is rendered obvious or lacks an inventive step, [Fig 1]. In practice, obviousness or lack of an inventive step is generally evaluated using certain guidelines that have been laid down by various cases in different patent jurisdictions.

The expression “non-obviousness” is often used in place of inventive step, as they essentially mean the same. Europe uses “inventive step” or “inventiveness” whereas

the United States patent law uses the expression “non-obviousness”.

In patent law, one of the most important issues in evaluating obviousness of an invention is **Hindsight Bias**. The literal meaning of **Hindsight** is

*“Understanding of a situation only after it has happened or developed.”*

In an ideal scenario, during evaluation of an invention by the patent examiner,

*the knowledge available at/before the time of filing the patent application should be considered for assessing the obviousness/non-obviousness of the claimed subject matter.*

But, it is quite inevitable to forget/ignore what is actually known about the claimed invention (i.e. its features, methods, advantages etc.). For a fair judgement on obviousness, hindsight should be avoided in any patent system.

The factor Hindsight Bias becomes extremely important if the claimed invention is a combination of already known elements i.e. a combination invention.

## 2. Inventive Step Assessment in EPO:

Article 56, EPC<sup>1</sup> relates to the assessment of inventive step in Europe.

The **Problem-Solution Approach** is applied by the Examining/ Opposition Divisions, and the Boards of Appeal of the EPO. It is derived

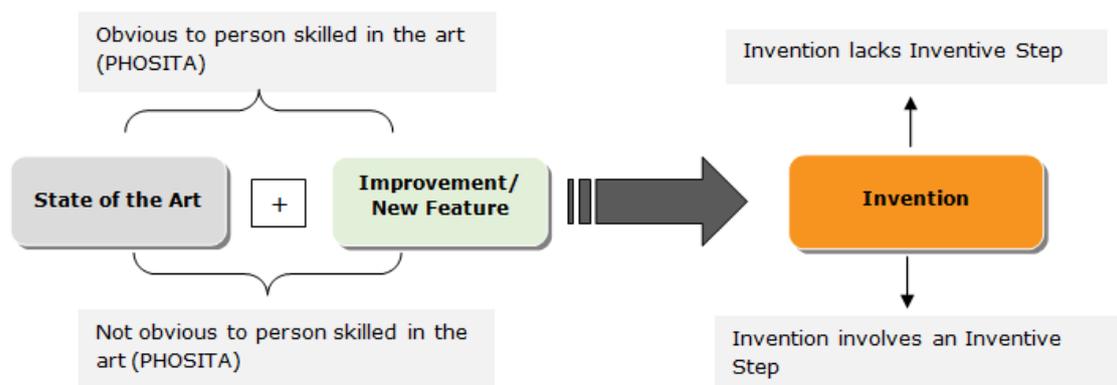


Fig 1

from R. 27(1)(c) EPC 1973 (new R. 42(1)(c) EPC).

In this approach, first of all, the examiners determine the elements that differentiate the closest prior art from the claimed subject matter. Then, the technical problem solved by

adding these elements to the prior art system is identified. Now, if solving the technical problem by adding these elements would have been obvious for a person skilled in the art, the claimed invention lacks inventiveness (Fig 2).

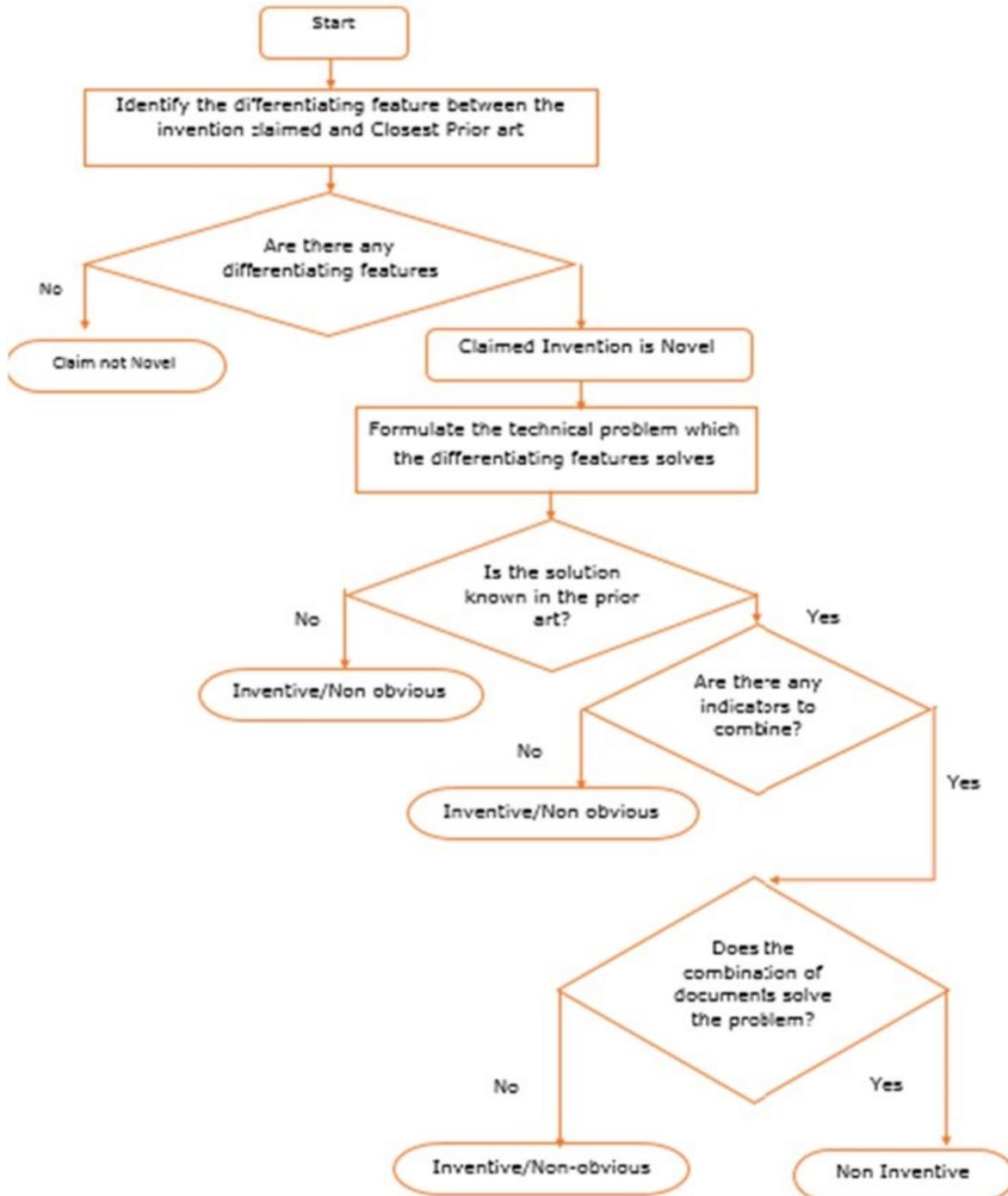


Fig 2: Flowchart for Problem Solution Approach

Provided below is the step by step approach adopted by EPO for the assessment of inventive step:

- Identifying the closest prior art, followed by determining the differences between the closest prior art and the claimed invention,
- Formulating the technical problem in the light of the identified closest prior art,
- Assessing the obviousness of the claimed solution ("could-would approach") i.e. if the person skilled in the art would have arrived at the claimed invention to solve the identified technical problem

Hindsight is an important factor in the problem-solution approach as the closest prior art is identified based on knowledge of the claimed invention.

According to EPO<sup>2, 3</sup>

*"Any attempt to interpret the disclosure of the closest prior art so as to distort or misrepresent, based on hindsight knowledge of the invention, the proper technical teaching of the disclosure in such a way that it artificially meets specific features recited in the claim under consideration must fail, especially as this would risk unfairly and tendentiously concealing the technical contribution of the invention and prejudice the subsequent objective determination of the technical problem solved by the claimed invention"*

Some of the notable cases for inventive step in Europe are

1. **T 24/81** that helped in framing the "problem-solution approach" in Europe<sup>4</sup>.

2. **T 2/83** related to investigation of the "could-would" question when determining if the skilled person is prompted to combine two prior art references<sup>5</sup>.

### **3. Inventive Step Assessment in US:**

Article 35, U.S.C. §103 relates to the assessment of inventive step in the United States<sup>6</sup>.

According to this article, inventive step is defined as follows:

*"A patent for a claimed invention may not be obtained, notwithstanding that the claimed*

*invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made."*

Various criteria have been adopted by the US courts for assessing obviousness/inventiveness of an invention viz. Flash of Genius Test, PHOSITA Standard etc. But, these turned out to be quite ambiguous in practice. So currently, there are two main approaches to assess the non-obviousness of the claimed invention in the US.

**TSM Test:** According to Teaching-Suggestion-Motivation (TSM) test, if there exists a teaching or suggestion or motivation in the prior art to combine the known elements according to the claimed invention, the invention is obvious. The "TSM" test is mainly applied in relation to inventions that involve several known elements. However, TSM test has been the subject of much criticism. In **2007, in KSR v. Teleflex**<sup>7</sup>, the Supreme Court of the United States overruled the exclusivity of the TSM test and further developed an approach based on Graham Factors.

**Graham factors:** The preferred test of non-obviousness is the Graham analysis. Graham factors were outlined by the Supreme Court in **Graham et al. v. John Deere Co. of Kansas City et al.**<sup>8</sup>, **383 U.S. 1 (1966)** and are described below

- the scope and content of the prior art,
- the differences between the claimed invention and the prior art,
- the level of the ordinary skill in the art, and based on this whether the novel features of the invention would have been obvious or not,
- secondary considerations such as commercial success, long felt unresolved needs, and failure of others to arrive at the claimed invention

Hindsight is not allowed in evaluating non-obviousness, requiring that evaluations of obviousness be conducted "at the time the invention was made."

#### 4. Inventive Step Assessment in Japan:

Article 29, Paragraph 2, of the Japanese Patent Act<sup>9</sup> relates to the assessment of non-obviousness in Japan. The Japanese patent examination guidelines for assessing the non-obviousness of an invention are as follows:

1. selection of an optimal material (cited invention),
2. comparison of the claimed invention with the cited invention,
3. identification whether the contents of the cited invention disclose a reason or a motivation for the PHOSITA (person skilled in the art) to arrive at the claimed invention

The current examination guidelines do not mention hindsight after their 2000 revision.

#### 5. Inventive Step Assessment in Korea:

Article 29, Paragraph 2, of the Korean Patent Act<sup>10</sup> includes a provision regarding an inventive step. The Korean patent examination guidelines for assessing the non-obviousness of an invention are listed below:

1. identifying the prior art,
2. comparing the claimed invention with the prior art,
3. assessing whether it would have been obvious/easy for the PHOSITA (person skilled in art) to arrive at the claimed invention

There are two factors that play an important role and are worth mentioning:

1. **Motivation to reach claimed invention:** If the prior art reference includes any motivation to reach the claimed invention from the PHOSITA perspective, the invention is rendered obvious.
2. **Advantageous effects/Unexpected results:** Any advantageous effect over the prior art has a positive consideration in determining if the claimed invention involves an inventive step or not.

Hindsight is not allowed under Korean patent practice.

#### 6. Inventive Step Assessment in Thailand:

The Thai Patent Act 1999, Section 7 includes a provision regarding an inventive step<sup>11</sup>.

For assessment of inventive step, the Thai patent law guidelines are a combination of the EPO problem-solution approach and the U.S. secondary considerations. Mostly, the **problem-solution approach** is used by the Thai examiners for the assessment of inventive step, but, the discretion of the examiner plays an important role<sup>12</sup>.

The Thai Department of Intellectual Property (TDIP) guidelines do not allow the use of hindsight in assessment of inventive step.

#### 7. Inventive Step Assessment in India:

Section 2(1) (ja) of the Indian Patents Act, 1970 includes a provision regarding an inventive step<sup>13</sup>.

According to this section, inventive step is defined as follows:

*"Inventive step means a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art"*

At present, the assessment of non-obviousness is not well defined in India. Hence, an approach similar to that used in some of the other major patenting systems is used.

One of the most notable case with regards to interpretation of inventive step in the Indian jurisdiction is *Bishwanath Prasad Radhey Shyam vs Hindustan Metal Industries*<sup>14</sup>. This case was decided in 1978, the principles laid down in the case are followed even today and have been codified in the Indian Patent Act.

#### 8. Inventive Step Assessment in China:

Article 22 of Patent Law of the People's Republic of China<sup>15</sup> relates to a provision regarding an inventive step (or Patentability Requirements). According to the Chinese Patent Law, an invention involves an inventive step if it has prominent substantive features

that represent remarkable advancements over the prior art.

In China, patents are granted by State Intellectual Property Office (SIPO) and it lays down the guidelines for patent examination. In practice, the "problem-solution" approach (EPC method: Fig 2) is adopted by the Chinese examiners and judges for the assessment of inventive step. But, there are no rules to abide by in evaluating non-obviousness/ inventiveness of an invention.

There are provisions in the Chinese Patent law to avoid Hindsight.

## 9. How we help our Clients

To develop a thorough understanding of the idea/claimed invention and identifying the inventive step involved in it is of utmost importance, irrespective of whether the objective is to obtain or oppose patent rights. Patent applicants are usually denied patent rights on the basis of lack of inventiveness. Further, obviousness or lack of an inventive step is one of the most frequently used parameter for opposing patents/patent applications.

Building a strong case for inventive step attack requires in-depth knowledge of patent laws coupled with technical expertise in the subject domain of the claimed invention, as opposing a patent/patent application on the basis of inventive step is not as straightforward as a novelty attack. We, at Winsome IP, follow very systematic and logical approach for conducting high quality patentability assessment and/or invalidation searches. Our techno-legal experts develop an in-depth understanding of the subject domain of the invention, prior to strategizing the searches. We have supported leading technology companies and law firms in building strong cases for inventive step attack.

## 10. Conclusion:

The primary objective of having inventive step as an essential condition for patentability is to prevent patenting of petty inventions (i.e. inventions that involve only insignificant or unimportant variations/advancements from the known art).

The main focus for inventive step assessment in EPO, US, Japan, Korea, Thailand, India and China is on the person having ordinary skill in the art (PHOSITA), i.e. whether the claimed subject matter would have been obvious to/easily made by PHOSITA. Further, all patenting systems forbid the use of Hindsight. Despite these similarities, the patent laws of different countries adopt different approaches to evaluate inventiveness/ non-obviousness.

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