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Demystifying Inventive Step in Computer-Related Inventions: A Critical Analysis of India's Draft CRI Guidelines 2025

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Abstract: ***The discovery of novel undertakings in the computer-related inventions (CRIs) has always been a major challenge especially in the Indian scenario where the safeguarding regime is claimed by the Patents Act of 1970, specifically, the Section 3(k). The natural ambiguity of the technical contribution of such inventions has resulted in different testing standards and has subsequently curtailed the coverage of the protection of digital technologies, software, and artificial intelligence inventions. To work in line with the emerging jurisprudential trends and the fast paced technological advancements, the Indian Patent Office released the Draft CRI Guidelines of 2025. The current paper is a critical review of the draft guidelines where the legal and procedural framework of identifying inventive steps in CRIs is intended to be clarified. It discusses the use of judicial precedent like the case of Ferid Allani v. Lava and Union of India and Ericsson, and examines the proposed structured examination system, which includes the seven stambhas, and the five-step test of innovative step. The study outlines the benefits of the new method and its drawbacks as compared to the 2025 draft to previous guidelines and global standards. Respecting the progressiveness of the draft, the study recognises that harmonisation and transparency require practice and training of the examiners. It also speculates on what this means to the policy of innovation, the availability of safeguarding that is given to startups, and the competitiveness of the Indian digital economy globally.***

Keywords: Computer-Related Inventions (CRIs), Legal structure, Procedural structure, judicial case law.

1. Introduction

The international intellectual property environment has been experiencing significant changes over the last few years, a process that can be greatly explained by the ever-growing pace of spreading the digital technologies and the general pervasive nature of software in the business processes. This has increased the level of examination with respect to the computer related inventions (CRIs) especially in respect of the inventive-step criterion, which has become a point of focus in the Indian jurisprudence of patent laws. Even though the principle of inventive step is a quality attribute of an invention that provides it with economic value or, in actual fact, technological advancement and therefore, makes it non-obvious to someone within the field of art, this is facilitated by Section 2(1) (ja) of the Indian Patents Act, 1970, there are special difficulties associated with its usage relating to CRIs. The task of measuring the innovation and non-obviousness is especially complicated in the case where CRIs are placed between abstract algorithms and definite technological solutions, which is a contrast to relatively easy to assess mechanical or chemical inventions.

The Indian Patent Office has over the years released a number of recommendations that will hasten the process of examining CRIs. First regulations were released in 2013, and since then, it has been revised in 2015, 2016, and 2017. All of these attempts attempted to balance the obligatory ban which is provided in Section 3(k)- the barring of the patenting of the mathematical techniques, the business process, and the software per se with the requirement of protecting any actual technological developments. However, lack of a standard approach in evaluating inventive step has created a lot of confusion in the practice of examination and the decisions made by the courts. The latest attempt to curb this ambiguity is summed up in the Draft CRI Guidelines 2025, which provides a methodological framework on how inventive step in CRIs is to be assessed, namely to draw a line between the further computerisation of the current processes and the development of a patent-eligible technical invention. The research paper looks into how much these draft recommendations can address years of issues on subjectivity, examiner discretion and how well the recommendations can be consistent with international best practices.

A strict and standardized evaluation policy has the capability to bring foreign investment, spur technological innovation and bring the patent system of India to the level of major international organizations like the United States Patent and Trademark Office (USPTO) and the European Patent Office (EPO). On the other hand, requirements that are too demanding or vague, will have the negative effect of unintentionally stifle innovation. In that light, the paper provides a critical analysis of the Draft CRI Guidelines 2025, including their intentions to reshape the inventive step of the computer-involved inventions, the extent to which they deviate in relation to the previous models and their anticipated impact on the overall innovation environment in India.

2. Statement of Problem

Whether computer related innovation (CRIs) are patentable in India remains a dilemma more so in the case of the inventive step requirements. The Patents Act 1970 (Section 3(k)) clearly states that computer programs, algorithms and mathematical processes are not patentable. This statutory exclusion makes the use of section 2(1) (ja) of the same act with CRIs harder thus making the determination of eligibility more difficult. Thus, there is a constant conflict between promoting the actual development of technology and

preventing the monopoly of control over the abstract. Though there is much uncertainty regarding CRIs, even though the Indian Patent Office periodically provides directions on how these should be applied to guide examination processes This inconsistency may undermine predictability of the results of the application of patents by an applicant, which ultimately raises the risk of litigation, exacerbates the problem of legal poverty, and could reduce investment in software-driven innovation.[1].

The standards adopted by examiners and the courts differ when it comes to determining inventive step especially on the issue of dealing with technical contribution. Even though the Guidelines of the Draft CRI 2025 attempt to shed light on the problem, there are still a number of open questions as to how far they go in dealing with the historical considerations, and how they balance the developmental needs of India against its competitiveness in the international arena.[2]

The risk is inherent, as it can protect too much, which will lead to the absence of competition, or it can not protect enough, which will hinder the innovations in innovative technologies, including blockchain, artificial intelligence, and financial solutions, because the inconsistent interpretation of the inventive step is extended to CRIs. The lack of a clear predictable and fair system of judging the inventive step of CRIs in patents under Indian patent law is a critical problem that has huge implications of the policy of innovation and industrial development and the role of India in the global knowledge economy.[3]

3. Research Objective

The main aims of the investigation are to examine the concept of inventive step when applied to computer-related inventions (CRIs) and critically analyze the concept of inventive step in regard to the context of the 2025 Draft CRI Guidelines in India. Besides outlining the innovation step in larger global paradigms, the study will also attempt to describe how the concept can be operationalised and defined according to the Indian patent law. The amendments and clarifications proposed by the Draft Guidelines will be subject to comparative analysis of the amendments and clarifications made against the old guidelines on the CRI guidelines, and their effect on the inventive step assessment. Another objective will be to determine the ongoing issues and ambiguities linked to the evaluation of inventive step with respect to the connection with the Section 3(k) exclusions, as well as the subjectivity that will be involved in determining the technical contribution. The research also aims at establishing how much the standards have converged or diverged in the benchmarking process by applying the Indian practice of standard setting to that of the major jurisdictions such as the United States, European Union, and the United Kingdom. Further, the study will assess how the Draft Guidelines will affect the Indian innovation ecosystem, and the analysis of the effects of the guidelines on start-ups, multinational companies and the information-technology sector in general. Lastly, the study seeks to offer suggestions that will enhance the fairness, consistency and transparency of the inventive-step evaluation, which will in effect ensure the statutes promote genuine innovation and eliminate the possibility of issuing insignificant or non-technological patents. [4] [5] [6] [7]

4. Research Questions

Q1. What are the challenges to the application of inventive step to computer-related inventions (CRIs) and what is inventive step as applied to computer-related inventions in the Indian patent law? [8].
Q2. Is there an interpretation problem in Section 3(k) of the Patents Act, 1970, which provides interpretative challenges in telling the difference between excluded subject matter and patentable CRIs? [9].
Q3. Are the clarifications on the inventive step requirement of CRIs in the Draft CRI Guidelines 2025 effective or is the Guidelines still ambiguous and inconsistent? [10].
Q4. Does India focus on creative step in CRIs in a way that is consistent with international practice, especially with the United States and Europe? [11] [12] [13]

Primary Source:
The main legal provisions that will be used to support the present study are Section 2(1) (ja) and Section 3 (k) of the Indian Patents Act, 1970, which define the doctrine of an inventive step and list the exclusions to computer-related inventions. The manuscript also examines the Draft CRI Guidelines 2025 that was issued by the Office of the Controller General of Patents, Designs and Trade Marks and the previous CRI guidelines, thus spelling out the changing policy parameters. The second part of the paper assesses some of the major international case law, such as the landmark case of Gottschalk v. Benson and Diamond v. Illinois Central Railroad, therefore, offers a wholesome guideline in evaluating the inventive step jurisprudence. It also canvasses of subsequent judicial adjudications and appellate rulings of Indian courts and the Intellectual Property Appellate Board (IPAB) with regard to computer-related inventions which are studied in detail by Diehr.

Secondary Source:
The forthcoming research article shall be based on various secondary sources, which include; academic monographs, peer-reviewed journal articles, and critical commentaries, which weigh the patentability of computer-related inventions and redefinition of the inventive step. Primary sources This will include authoritative works on the Indian patent law, which provide in-depth discussions of statutory interpretation and recent judicial trends, such as the treatises Law of Intellectual Property Rights by Ashwani Kumar Bansal and Patent Law by P.Narayanan.

In order to take into account the recent discourse in the topic of computer-related inventions, the research will refer to the peer-reviewed articles as well as empirical research published in developed journals, including the *Journal of Intellectual Property Rights (JIPR) and the *NUJS Law Review*. Furthermore, international standpoints and comparative reviews by such outlets as the *Harvard Journal of Law and Technology and the Europe Intellectual Property Review (EIPR) will also get input into the analysis, so the study will have been able to afford a more global perspective.

Reports and working papers will be used as supplementary material that can be a representation of best practices that have been adopted by organisations like the Organisation for Economic Co-operation and Development (OECD) and the World Intellectual Property Organization (WIPO). The development of such secondary sources will form a strong base in evaluating the success of the Draft CRI Guidelines 2025 in clearing the interpretation ambiguities of the inventive-step prerequisite on computer-related inventions.

Issues with the Existing Legality and the necessity of the guidelines.

Although this is extensive, the current Indian patent system still has significant flaws in addressing the special problems of computer-related inventions (CRIs). According to section 2(1) (ja) of the Patents Act of 1970, inventive step is defined and section 3(k) excludes mathematical models, business methods and algorithm. They have however been administered irregularly and subjectively in most cases to CRIs. The examiners and judges are struggling to know whether an invention created is a true technological advancement or it is just a computerisation of the old practices. Lack of standardisation is also a significant problem. The criteria used by various IPAB benches and patent examiners has been varied in that it is not known whether CRI patents are obtained or not. The true innovative work has not been accepted as per the Section 3(k) as an example, on the contrary the minor enhancement of software has been regarded as patentable.[14] [15]

More complications are caused by the overlapping and vague nature of the inventive step test and statutory exclusions. As a result, the practitioners often face uncertainty over the patentability of subject matter, especially where CRIs cross the border between abstract algorithms and their technological embodiments. This ambiguity discourages investment in software-intensive industries and places innovators in a bad position to make their way through the legal system. [16].

India is at a disadvantage with the international stage. Other jurisdictions, including the United States and the European Union, e.g. under the Alice/Mayo U.S test and the EPO test of technical effect, have come up with more explicit tests. However, the lack of such tests in the Indian legal system affirms the uncertainty over the possible results by the applicant.

To address such shortcomings, the Draft CRI Guidelines 2025 needs to be clear, uniform, and transparent in the assessment of creative processes of CRIs. In order to promote a moderate atmosphere where authentic innovation is promoted and unnecessary monopoly is avoided, the guidelines suggest the standardisation of the examination processes, minimization of the subjectivity, and harmonisation of the Indian practice with the worldwide best practices.

It is necessary to create a balanced environment that safeguards genuine innovation and discourages irrational monopolies, which is why the guidelines include standardizing the examination processes, reducing subjectivity, and moving Indian practice to the international leading practices.[17].

International and National Law

The international law provides the general framework through which sovereign states can structure their patent system. The most noticeable tool is the 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) under the World Trade Organization administration. New inventions are protected by patent under TRIPS (Article 27); there has to be a creative step in place, and the invention has to be patentable. TRIPS in its turn permits each nation to establish the meaning of the term inventive step that is often confused with the term non-obviousness and permit policy-based exceptions.

The international practice, especially the European Patent Convention (EPC) and the so-called European Patent Convention of the so-called technical effect test, and the local jurisprudence, in particular, Gottschalk v. (case reference), have a crushing influence on the guide and interpretation of inventive step in case of computer-related inventions. Key cases such as Benson v. The case of Alice Corp. and CLS Bank also depicts the changing judicial environment.[18].

On the other hand, these international commitments are reflected through a domestic structure through national laws. India The Patents Act, 1970 (as amended) regulates the situation in India. Algorithms, business methods and computer programs generally are, notwithstanding not patented under Section 3 (k), otherwise not patented under Section 2 (1) (ja). Determining the boundary that falls under the interpreted excluded subject matter and that which falls under actual technological progress may be a challenge when it comes to considering an invention. To deal with this issue and align the process of examining the patents, the Controller General of Patents, Designs, and Trade Marks has issued the Computer Related Inventions (CRI) Guidelines (2013, 2017; currently the Draft CRI Guidelines 2025).[19].

Interplay between international and domestic law is important because international agreements like TRIPS require India to have a strict and innovation in-friendly standard that the local law softens with policy provisions designed to stop monopolistic control of abstract ideas. The Draft CRI Guidelines 2025 are seen as the attempt of India to harmonize its domestic legal framework with the international one and to discuss the local issues related to the software patentability.[20].

India Judiciary

The development of the creative-step criterion to deal with computer-related inventions (CRIs) in India is largely influenced by the courts. The statutory framework represents the Patents Act of 1970 but its interpretation is further elucidated by judicial and quasi-judicial courts especially where the statutory wording is contradictory. Judicial interpretation is aimed at providing a compromise between actively encouraging real innovation and preventing monopolistic use of abstract ideas. The application of Section 2(1)(ja), which addresses the inventive step, and the Section 3(k), which addresses banning of computer programs, mathematical techniques and algorithms is one of the key activities of the judiciary.

The judiciary and Intellectual Property Appellate Board (IPAB) have been called upon severally to decide whether a so-called invention is a computer embodiment of an abstract idea or a technological improvement. By establishing principles on non-obviousness and technical effect the courts have filled the gaps that are presented by disparate examination processes using case law. The tribunal in the case of Yahoo Inc. v. Controller of Patents (IPAB 2011) emphasized that there should be a technical impact and not just a computer program. Likewise, in *Ferid Allani v. In the case Union of India* (Delhi HC 2019), the Delhi High Court determined that the software entities that have a technical contribution cannot be discarded only due to their nature. Such decisions depict a court tendency towards consistency and equity. The judiciary also interferes with the Patent Office or the patent examiners when they either enforce the CRI guidelines strictly or in a haphazard manner. Courts guarantee the exercise of administrative discretion within legal and policy limits through the review of the appeals and writ petitions.

Finally, but not least, the judiciary assists in harmonisation with the international standards by considering robust precedents established elsewhere such as the technical effect test of the European Patent Office or the decisions of the U.S. Supreme Court in Gottschalk v. Benson and Alice Corp. Such a comparative approach enhances legal predictability of innovators by elevating the developing jurisprudence in India to its international best practices.

5. Suggestions

Adopt a Clear "Technical Effect" Standard:
A proper criterion of a Technical Effect should be introduced, as it is done by the European Patent Office (EPO), where the Draft CRI Guidelines clearly require an inventive step in CRIs to be demonstrated by a certain technical effect or technical contribution. Such a requirement would eliminate ambiguity and ensure that actual technological advances are secured, which would exclude abstract algorithms and business practices.

Establish Uniform Investigative Structures:
The Ingenious Step and Section 3(k) are commonly used inconsistently by patent examiners thus producing inconsistent results. Based on this, the guidelines ought to include standardised checklist or evaluative test that ensures that the criteria of assessment are equivalent, e.g., by introducing a multi-tiered framework of CRIs.

Enhance Examiner Training:
To contain subjectivity in the examination of patent, it is urgent that examiners be trained to have specialisation on the current software and new technologies. This knowledge will prepare the examiners with a better capability to recognize genuine innovations and prevent unnecessary rejections due to excessive interpretation of exclusion clauses. There is a need to enhance the interaction between the judicial and the administrative apparatus. As much as precedential cases like Ferid Allani v. are good guidelines, they are not binding. The Patent Office should be procedurally incorporated with the Union of India (Del. HC 2019). In case the rules were constantly revised to represent judicial decisions, the administrative practice would have become more aligned with judicial interpretation.

Enhance Openness in the Process of Decision-Making:
In addition to reducing unwarranted litigation and increasing confidence in the patent system, publication of detailed justifications in CRI examination reports and orders would help the applicants in interpreting inventive step as it is interpreted by the Patent Office.

Encourage International Harmonisation:
India should align its CRI framework with international norms, especially the EPC, TRIPS, and strong U.S. and EU jurisprudence. Harmonisation would promote foreign investment in innovation and make India's system more predictable for multinational firms.

Introduce Periodic Review of Guidelines:
Given how quickly digital technology is developing, the CRI Guidelines should incorporate a periodic review mechanism, maybe every three years, to guarantee flexibility in response to emerging technologies like artificial intelligence, blockchain, and quantum computing.

Promote Transparency in Decision-Making:
In addition to lowering needless litigation and fostering confidence in the patent system, the publication of thorough justification in CRI examination reports and orders would assist applicants in understanding the Patent Office's interpretation of inventive step.

6. Conclusion

In the context of Indian patent laws, it is still a difficult task to treat inventive step in computer related inventions (CRIs). In spite of the statutory basis of Section 2(1)(ja) and 3(k) of the Patents Act of 1970, the dynamism in digital technologies has unveiled loopholes in interpretation which the past rules and the prevailing provisions have struggled to fill. Despite the draft CRI guidelines of 2025 being a positive move in the right direction, the question of how the technical contribution towards meeting the inventive step test is addressed remains unanswered.

The importance of considering the technical contribution of innovations involving software has been highlighted by the judicial interventions, namely in such cases, as Ferid Allani v. Union of India. The absence of a standardised and structured test has however led to the disparity in testing processes and this has brought about confusion to the startups, innovators and even the big corporations. By letting the identical issue extend the protection of a patent to useless computer implementations, or conversely by encouraging the genuine technological progress forward, India is running the risk of either overprotecting or not protecting at all.

The future requires a moderate solution. India requires more globally harmonised more transparent standards using international practices such as European test of the technical effect and U.S. jurisprudency on non-obviousness. The CRI Guidelines should be revised on a regular basis, the judicial precedents should be included in the administrative process and the specialised training should be provided to the patent

examiners to ensure the minimisation of subjectivity and to ensure that the Guidelines should be applied uniformly.

Bibliology

1) Indian Patent Office has published the Draft CRI Guidelines 2025. This is an official document that is published to be reviewed by the people and it has an Annexure explaining the review of computer-related inventions (CRIs). According to this document, section 3(k) will be where research starts to be done on research purposes only. [21].
2) The paper by Yogesh Anand Pai, entitled Patent Protection of Computer Programs in India: Need a Coherent Approach, is most useful in an analysis of Section 3(k) of Indian Patent Act, 1970 specifically concerning the exclusion of computer programs in general. This report can help to analyze Section 3(k) in the following respect. [22].
3) For an analysis of Section 3(k) of the Indian Patent Act, 1970, particularly about the exclusion of computer programs in general from patentability, Yogesh Anand Pai's paper "Patent Protection for Computer Programs in India: Need for a Coherent Approach" is extremely helpful. This document can assist in evaluating Section 3(k) in the following ways. [22]
   - Elucidation of the Concept of "Per se" in Section 3 (k).
   - The Intention of the Section 3(k) of the law. International Practices (US and EU) Comparison. Guidance to Courts and Patent Office- Interpretive.
   - Recommendations on Advocacy and Legal Reform.

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