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Tiruchirappalli – 620102

Phone : +91 73059 14348 – info@iledu.in / Chairman@iledu.in



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A COMPARATIVE STUDY ON EXPERT OPINION UNDER EVIDENCE LAWS : INDIA AND DEVELOPED COUNTRY

AUTHOR – SHUBHAM KUMAR* & DR. DEO NARAYAN SINGH**

* LL.M.(2025 – 2026), CENTRAL UNIVERSITY OF SOUTH BIHAR, GAYA JI

** ASSISTANT PROFESSOR, SCHOOL OF LAW AND GOVERNANCE, CENTRAL UNIVERSITY OF SOUTH BIHAR,
GAYA JI.

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Abstract

The expert opinion evidence is vital in making a decision in the courts when the dispute cannot be solved without scientific, technical or specialized knowledge that an ordinary judge cannot possess. In India, expert evidence is admissible and used under the Bharatiya Sakshya Adhiniyam, 2023, especially, Sections 39 to 45, which accepts expert opinion as evidence but does not hold it as conclusive. In India, courts have always argued that expert testimony is only advisory and should be looked upon critically and supported with other evidence to make it reliable and fair.

This paper reviews the Indian legal system on expert opinion evidence and provides a comparative perspective with the situation in the United States, the United Kingdom, Canada, Australia, and the European Union. The paper sheds light on the major variations in admissibility requirements, judicial gatekeeping functions, expert neutrality, and accreditation processes that it has identified through a review of statutory and leading judicial cases. Whereas other jurisdictions like the United States and Canada have structured admissibility tests based on scientific reliability and relevancy, the Indian system does not have a uniform standard, formal accreditation of experts, and no real protection against partisanism.

Keywords: Evidence Laws, Expert opinion, The Bharatiya Sakshya Adhiniyam, 2023, International stander, gatekeeping, scientific innovation.

I Introduction

Expert opinion under the evidence laws has an important role to play in the administration of justice, primarily in instances involving complicated scientific, technical or specialized knowledge. The main role of such evidence is to help the court to decide an independent judgment on matters that are beyond the layperson understanding. An expert is a person who has a special skill, training, or experience is considered capable of offering opinions to the

judiciary that helps bridge the gaps of understanding and ensure a more accurate decision-making process. This type of evidence is normally use in a various legal dispute, such as civil, criminal, constitutional, where the fact matter needs some kind of professional evaluation or scientific validation.

In civil cases, expert opinions are regularly employed in matters of valuation (property, shares etc.) and location, intellectual property disputes, white collar crimes, engineering

contract-related issues. In criminal cases expert testimony plays a vital role in issues like forensic science, handwriting analysis, substance and DNA (Deoxyribonucleic Acid) evidence which is helpful in a direct bearing on the guilt or innocence of an accused. Under constitutional matter has also seen the integration of expert input particularly in cases of public health and cases of environmental law, where scientific assessment of harm or risk is required to establish fundamental rights under Articles 21 and 32 of the Constitution of India. The expert opinion is admissible in court, is not considered as conclusive evidence in India. Courts are not bound to accept expert evidence only and are expected to corroborate expert evidence in the light of the other evidence on record. This distinction between admissibility and evidentiary value experts are only for assist court not supplement.¹³⁶⁹

The challenge of opinion is to ensuring that expert evidence is objective, reliable and free from bias. This concept have been use in different jurisdictions across the world to develop different legal framework to regulate the admissibility and assessment of expert opinions. The Indian legal system, which is governed mainly by Bharatiya Sakshya Adhiniyam, 2023 and in particular, Sections 39 to 45 of the Act, makes provisions regarding the use of expert evidence. However, with development in the field of science and with the increasing reliance of technology in litigation, the courts in India have been challenged with difficulties in the uniform application of these provisions.¹³⁷⁰ Comparative analysis with different global legal systems such as the United States, United Kingdom, Canada and Australia we see that more stringent and structured mechanisms are to ensure that expert testimony meets the standards of relevance, reliability and impartiality.

II Legal Framework of Expert Opinion Evidence in India

The scope of Indian legal system gives its value to expert opinion as an important mechanism to assist judiciary in decision-making, especially where expert opinion is required in the legal system, particularly in the areas requiring expert opinion such as scientific or technical. The basis of the expert evidence in India is mostly contained in Sections 39 to 45 of the Bharatiya Sakshya Adhiniyam, 2023 (hereinafter BSA) which outline the scope, admissibility, and efficacy of such opinions in judicial proceedings.

Provisions provided under the Bharatiya Sakshya Adhiniyam, 2023

Section 39 of the Act is the mother lode, which gives the court the option to seek the opinion of experts in matters such as foreign law, science, art, handwriting, finger impressions and an examiner of electronic evidence. The provision defines expert as a person “specially skilled” in the relevant field and his or her opinion becomes relevant in the event where the court has to form an opinion on such matters.¹³⁷¹ Sections 40 to 45 go into further detail about how such opinion can be used. For example, Section 40 allows facts supporting or opposing the expert's opinion to be considered relevant, which allows courts to analyze the reliability of the testimony. Section 41 deals with the opinion as to handwriting while Section 45 states that the grounds upon which the expert opinion is based may also be inquired into.¹³⁷² This is to cross-examine and assess the methods or assumptions that the expert has employed.

Judicial Interpretation of Indian Courts

The Indian judiciary has, by and large, held the position that expert opinion is of a prudential nature and is not binding upon the court. In State of Himanchal Pradesh vs. Jai Lal¹³⁷³, the

¹³⁶⁹ S.P. Sathe, Evidence Law in India, (LexisNexis, 2nd ed., 2010) p. 192.

¹³⁷⁰ R.V. Kelkar, Lectures on Criminal Procedure, (Eastern Book Company, 6th ed., 2019) p. 308.

¹³⁷¹ Bharatiya Sakshya Adhiniyam, 2023, s. 39.

¹³⁷² Ibid., ss. 39 – 45.

¹³⁷³ AIR 1999 SC 3318.

Supreme Court emphasised that the opinion of an expert should be considered like any other type of evidence and should not be accepted just because it is the opinion of an expert. Courts have to consider whether the opinion is grounded in established principles and logical. In *Selvi vs. State of Karnataka*, the Court held against the admissibility of narco-analysis tests and brain mapping tests, on the ground that these tests violate the guarantees under Article 20 of the Constitution and are not sufficiently scientific. This case is a reflection of the judicious approach followed by the Indian courts while dealing with unprecedented or disputed evidence of an expert.

Types of Experts Recognized

The most conventional categories of experts are medical practitioners, forensic scientists, ballistics, handwriting and fingerprint experts, and digital experts. With the emergence of cyber crime and technology related disputes, courts have extensively sought opinions of cyber forensics and IT professionals.

Admissibility and Evidentiary value of Expert Opinion

It is material to distinguish between the admissibility and the evidentiary value of expert opinion. While an opinion may be admissible under Section 39, the value of the opinion depends on corroboration with other evidence, the reliability of an expert and the logical reasoning behind the opinion. The courts are not bound to follow the view of the expert if there is a lack of consistency or a lack of support by data.

Admissibility and Evidentiary value of Expert Opinion

The difference between admissibility and the evidentiary value of expert opinion is material. Although an opinion can be admissible under Section 39, the opinion will be of value depending on its corroboration with other pieces of evidence, credibility of the expert and

reasonability of the opinion.¹³⁷⁴ Courts are not obligated to abide by the opinion of the expert as long as it is not coherent, as well as supported by data.

Government and Private Experts

The Indian courts usually rely on the expert of the government appointed like the Central Forensic Science Laboratories (CFSL), State Forensic Labs, and government medical officers. But private experts are also not excluded, but they can be more subjective to the scrutiny of the courts because of the fear of bias or polarization.¹³⁷⁵ Most criminal cases give preference to government experts because they are seen as neutral and supported by the institution.

Overall, the expert opinion in India has a well-organized legal system, but there are still difficulties in making sure that it is homogenized and verifiable, and that the results are reported impartially. To have a comparative view with world systems can be of value to reform.

III. International Viewpoints concerning Expert.

The use and admissibility of expert opinion evidence are significantly different in most legal systems, based on principles of evidentiary law, and institutional forms of the judiciary. Although the Indian legal system in the framework of the *Bharatiya Sakshya Adhiniyam, 2023*, offers the framework of experts as a basic one, various jurisdictions around the world have shifted their focus on a more complex and stricter one. These jurisdictions provide primary pointers into the manner in which expert evidence can be controlled, balanced and utilized in court proceedings to ensure fairness and accuracy. This part examines expert opinion evidence treatment in the United States, United Kingdom, Canada, Australia, and the European Union.

United States: Daubert Standard and the Federal Rules of Evidence.

¹³⁷⁴Vepa P. Sarathi, *Law of Evidence*, (Eastern Book Company, 7th ed., 2020), p. 288.

¹³⁷⁵ K.D. Gaur, *Textbook on Indian Evidence Law*, (Universal Law Publishing, 5th ed., 2021), p. 336.

In the United States, the rule of expert testimony is regulated by the regulation of the Federal Rules of Evidence (FRE), mainly, Rule 702, which stipulates the circumstances under which the witness can be considered an expert and the occasions when his/her opinion can be admitted.¹³⁷⁶ Before 1993, the admissibility rule was grounded on the Frye test, which is a test grounded in Frye vs. United States that the opinion was founded on scientific principle and that it had to be generally accepted within the scientific community at issue.¹³⁷⁷

Nevertheless, on the landmark case of Daubert vs. Merrell Dow Pharmaceuticals, the U.S Supreme court reversed the Frye test and offer new rule of opinion that is more lenient and scientifically reliable criterion.¹³⁷⁸ Courts under Daubert Standard are considered to be a gatekeeper and should consider:

1. The testability of the opinion or the technique;
2. Whether peer-reviewed and published;
3. The error rate known or may be known;
4. The presence and upkeep of standards; and
5. Acceptance in the scientific community.¹³⁷⁹

Daubert, Rule 702 was revised to make such requirements codified. The Court no longer performs an observational role, but instead it should be proactive to make sure that the systematic of the expert is scientifically sound and applicable to the matter of facts. This model has been used as a model by many countries in the world.

United Kingdom: Criminal Procedure Rules, Woolf Reforms, and the Civil Evidence Act 1972.

In the laws of the United Kingdom, expert evidence in civil proceedings falls under the Civil Evidence Act 1972 that did not support the common law approach that expert opinion was inadmissible unless the expert was a witness.¹³⁸⁰ The Woolf Reforms have now been followed by

the introduction of the Civil Procedure Rules (CPR) that is important in controlling expert opinion. The CPR rule 35, the expert evidence applies in the civil cases, emphasizes the fact that the principal responsibility of the expert is to the court rather than the party referring the expert. This was a reformation to decrease bias and biases in the expert testimony. The expert evidence is regulated under the Criminal Procedure Rules, Part 19 in criminal cases. One of the outstanding changes in the UK law is the Criminal Practice Direction (CPD), which dictates that expert evidence should be founded on sound principles and techniques. The UK courts have come up with a suspicious attitude of accepting expert evidence in criminal trials, as they demand that the judge should carry out a pre-trial scrutiny of admissibility, more so in matters of new scientific development. By the case of R vs. Dlugosz, it was made clear that not clear voice identification evidence, even the evidence of the expert, could be rejected in case they were not supported with the reliability criteria.

Canada: Mohan test of admissibility

In Canada, it has formulated a unique four pillar test of admissibility of expert evidence, it established in the leading case of R vs. Mohan. In Mohan Test, it is necessary to follow:

- I. The evidence should be applicable;
- II. The specialist should be duly qualified;
- III. The evidence should be requisite in aiding the trier of fact;
- IV. The evidence should not provoke any exclusionary regulations.¹³⁸¹

Canadian approach acknowledges the restricted admissibility as well as the gate keeping discretionary role of the court. It implies that despite having satisfactory expert testimony that satisfies the four rules, the court is still entitled to discretion power and rule out the evidence, in case its prejudicial value outweighs its value to the evidence. Other cases

¹³⁷⁶ Federal Rules of Evidence, Rule 702 (U.S.).

¹³⁷⁷ Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

¹³⁷⁸ Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

¹³⁷⁹ *Ibid.*

¹³⁸⁰ Civil Evidence Act, 1972 (UK), s. 3.

¹³⁸¹ Criminal Practice Directions [2015] EWCA Crim 1567.

such as *R vs. Abbey* have introduced an element of reliability particularly in scientific or new expert evidence.¹³⁸² Courts have pointed out that expert witnesses should offer their opinions that are founded on pre-existing rules and are founded on a sound body of knowledge. This makes sure that the expert testimony does not deceive the court and sway the jury to make judgment.

Australia: Uniform Evidence Law and Expert Witness Duties

Australia adheres to a Uniform Evidence Law (UEL) that is shared by several jurisdictions such as New South Wales, Victoria and the Commonwealth. The expert opinion should be admissible under Section 79 of the Evidence Act 1995 which states that the expert opinion must be connected entirely or significantly on the specialized knowledge acquired by the person through training, study or experience.¹³⁸³

The Australian courts have put more and more focus on the independence of experts and the obligation to be of help to the court. The *Dasreef Pty Ltd versus Hawchar* case stipulated that expert evidence should be able to identify the factual foundation and the rationale of opinion.¹³⁸⁴ In case these are not discovered, the evidence can be dismissed. In civil cases, it is common practice to have concurrent expert evidence or hot-tubbing, with the opposing experts giving evidence alongside one another and being asked questions by the judge in one session. This approach enhances transparency as well as minimizing adversarial bias.¹³⁸⁵ The structure of Australia also requires a Code of Conduct among expert witnesses, which dictates that the expert is required to be impartial and fully disclose the presumption, methods and limitations.

European Union: ECHR Principles and the Harmonization efforts.

European Union lacks a standardized legalistic approach to expert evidence throughout the member states has diverse procedures and regulations on expert opinion. A common minimum standards are however coming out of the European Convention on Human Rights (ECHR) and especially Article 6 of the convention which gives the right to fair trial.¹³⁸⁶ Such EU initiatives as the Directive 2010/64/EU that is associated with the right to interpretation and translation and Directive 2012/13/EU that is associated with the right to information in criminal proceedings have an indirect influence on the use of expert evidence, as they discuss the topic of transparency and the right to challenge expert opinion. Some members of the EU, including Germany and France, rely more on the court-appointed experts than the party-appointed experts. Expert choice in Germany, an instance, is made by a court expert himself, chosen by a public list and a report prepared by expert has a high evidentiary value. The aim of this system is to reduce biasness as well as increase objectivity. Nevertheless, it contends that it can restrict testing of expert opinion which is adversarial.

Numerous harmonization attempts have been made such as the European Network of Forensic Science Institutes (ENFSI) that addresses best practices and quality standards among forensic laboratories. However, there are still major procedural differences, and harmonization is still a long-term project. Comparative examination of expert opinion evidence as practiced in jurisdictions of the world shows significant differences in the admissibility criteria, judicial gate keeping, and the role of the expert opinion. Whereas the United States focuses on scientific validity and strict judicial examination under the Daubert Standard, same time, the United Kingdom encourages expert unbiasedness and efficient procedures. Similar to Canada, which bases its test on a four-part test, the importance of both reliability and necessity. Simultaneously,

¹³⁸² *R v. Dlugosz* [2013] EWCA Crim 2.

¹³⁸³ Evidence Act 1995 (Cth) (Australia), s. 79.

¹³⁸⁴ *Dasreef Pty Ltd v. Hawchar* [2011] HCA 21.

¹³⁸⁵ Freckelton I. and Selby H., *Expert Evidence: Law, Practice, Procedure and Advocacy*, (Thomson Reuters, 5th ed., 2013), p. 489.

¹³⁸⁶ European Convention on Human Rights, art. 6.

Australia emphasizes professional transparency and procedure innovation, including so-called hot-tubbing, whereas the European Union, inspired by the principles of ECHR, is becoming more transparent and standardized, in particular, in forensic sciences.

These systems can teach certain important lessons to India, especially the enhancement of judicial gatekeeping, the establishment of admissibility criteria, the stimulation of impartiality by the appointment of experts by the court, and the promotion of standard procedures. Such reforms may be used to make sure that expert advice in Indian courts is scientifically valid as well as legally sound.

IV. Comparison Criteria in the Assessing Evidence of Expert Opinion

Expert opinion evidence can be very essential in adjudicating the legal cases that have technical or scientific complexities. The credibility and reliability of such evidence is however by a series of comparative criteria which differ between jurisdictions. These are the admissibility standards, judicial gatekeeper functions, court-appointed expert/party-appointed expert, expert qualifications and responsibilities, the examination process, and bias prevention practices. All of the criteria are essential in the identification of the integration of expert evidence within a judicial procedure.

a) Admissibility Standards

The first comparative benchmark is connected with admissibility standards, which establish whether expert testimony can be introduced in the court. Other jurisdictions such as the United States use the Daubert Standard that deals with scientific reliability and relevance.¹³⁸⁷ According to this standard, judges need to consider the fact that the methodology used by the expert is testable, peer reviewed, has known error rate and is considered as generally acceptable not only in the scientific world. In comparison, the

older Frye test was based on the mere general acceptance in the area concerned only and is still used in certain states of the U.S.¹³⁸⁸ In Canada, the Mohan Test evaluates the admissibility in terms of relevance, necessity, qualification and exclusion of bias.¹³⁸⁹ Section 39 of the Bharatiya Sakshya Adhinyam, 2023 in India permits expert evidence, but does not require any elaborate reliability test and thus the wide discretion of the judges.¹³⁹⁰

b) Role of Judges as Gatekeepers

The second criterion is the role of the judge as a gatekeeper, which is specifically stressed in the U.S. and Canadian law. In the Daubert regime, the judge is required to conduct a cursory examination on whether the logic or procedure that led to the expert testimony is scientifically valid.¹³⁹¹ On the same note, Canadian courts have the mandate of ruling out evidence that may be more prejudicial than probative. In India, the pre-admission hearing is not organized, and expert opinions are usually admitted except when they are objected to at the trial, although courts recognize their freedom to review the expert evidence.¹³⁹²

c) Court-Appointed and Party-Appointed Experts

A significant difference is to be found in the issue of whether experts are court-appointed or party-appointed. In civil jurisdictions like Germany or France, jurists tend to appointed by the court, which makes them appear impartial.¹³⁹³ In common law jurisdictions such as India, U.K and the U.S., experts are normally party-appointed so that bias and adversarial positioning is a matter of concern. Nevertheless, the UK Civil Procedure Rules (Rule 35) have been reformed to permit one joint expert, who is appointed at the consent of both the parties or by the court itself to reduce partisan effect.¹³⁹⁴

¹³⁸⁸ Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

¹³⁸⁹ R v. Mohan, [1994] 2 SCR 9.

¹³⁹⁰ Bharatiya Sakshya Adhinyam, 2023, s. 39.

¹³⁹¹ Federal Rules of Evidence, Rule 702 (U.S.).

¹³⁹² *Supra* Note. 7.

¹³⁹³ Jackson J., "The Role of Expert Evidence in European Legal Systems," *Journal of Legal Studies*, Vol. 43, No. 2 (2014), p. 178.

¹³⁹⁴ Civil Procedure Rules (UK), Rule 35.

¹³⁸⁷ Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993).

Such a formal mechanism is indefectible in India, but the courts sometimes make independent experts as a matter of inherent powers.

d) Skills and responsibilities

Experts Skills and qualification of experts is another important requirement. Although all jurisdictions demand expertise, some with such as Australia mandate compliance with a code of conduct that defines the responsibility of an expert to the court, but not to the instructing party.¹³⁹⁵ When it comes to the situation in India, accreditation or registration of experts is not a statutory requirement, which results in inconsistency of quality and objectivity.

e) During Examination

Cross-examination is a necessary mechanism of challenging the authority and procedures of professionals. In every common law system, such as in India, the UK and Canada, experts are also liable to cross-examination, with the opposing party being able to question his or her qualifications, practices and findings.¹³⁹⁶ Civil system of laws, on the contrary, tend to be more based on written reports, less questioning between adversaries.

f) Bias, Impartiality and Credibility

Lastly, issues of bias and impartiality are the core concerns of comparative judgments. Expert witnesses who have been hired by a party are regarded as hired guns and thus judicial distrust. The key point that is reiterated by both courts in the UK and Australia is that the expert is owed a duty of care that he or she owes to the court and not to the party that employs them.¹³⁹⁷ Indian courts have not been left behind by expressing such sentiments by saying that expert evidence should be objective and scientifically valid.¹³⁹⁸ Nonetheless, the

absence of official codes/standards of ethics in India still concerns credibility.

Overall, comparative juridical systems show differences in handling expert witnesses. Although India is aware of the value of expert evidence, it is not subjected to the hard admissibility rules, gatekeeping procedures and ethical requirements as seen in other countries such as the U.S, Canada and the UK. In India, mandatory ethical standards, the use of clearer standards, and experts appointed by the court might go a long way in improving the reliability of expert testimony.

V. The Indian Context of Problems

Although expert opinion evidence plays an indispensable role in cases where determining the presence of an intricate legal issue in India, its creative application has multiple obstacles at both systemic and procedural levels. Such problems undermine the credibility, consistency, and the effectiveness of judicial results. The excessive use of expert evidence without sufficient corroboration, absence of standardized qualifications, prevalence of expert personnel hired by a party, delays in the infrastructural system, and judicial discrepancy in assessing this evidence all indicate the necessity of changes.

a) Too much Expert Opinion With no corroboration.

Among the most significant issues in the Indian courts is the over existence of expert opinion without corroborating it with other sources. Courts have made it clear that expert opinion is not final and it needs to be evaluated with other evidence.¹³⁹⁹ The Supreme Court in the case of State of H.P. vs. Jai Lal, stated that expert opinion cannot be taken uncritically and that it is bound to be supported by other materialistic evidence.¹⁴⁰⁰ In spite of such advice, trial courts tend to regard expert opinion particularly that of a government forensic laboratory or medical board as final, posing the risk of miscarriage of

¹³⁹⁵ Evidence Act 1995 (Cth) (Australia), s. 79; see also Expert Witness Code of Conduct (Australia).

¹³⁹⁶ *Supra* note. 8, p. 296.

¹³⁹⁷ National Justice Compania Naviera SA v. Prudential Assurance Co. Ltd. (The Ikarian Reefer) [1993] 2 Lloyd's Rep 68.

¹³⁹⁸ AIR 1980 SC 531.

¹³⁹⁹ *Supra* note. 8, p. 297.

¹⁴⁰⁰ *Supra* Note. 7.

justice in case there is any error or omission in the opinion.

b) Absence of Standardised qualifications and accreditations.

In India, there is no real accreditation or certification process of expert witnesses. No central body exists and keeps a list of qualified professionals, nor are there legal qualifications that are required. This brings confusion on the abilities of professionals and opens the floodgates to untrustworthy testimony.¹⁴⁰¹ Conversely, some jurisdictions, such as Australia and the UK, have expert witness codes of conduct and mandate expert witnesses to provide credentials that they are experts in the subject matter.¹⁴⁰² India has occasionally had expert witnesses that are not even educated in the scientific or technical fields, and instead, their admission depends on experience alone, which undermines scientific rigor of such testimony.¹⁴⁰³

c) Party Effect on Hired Experts.

Indian legal system is adversarial in nature, which means that each side hires his own experts and partisan views are often taken. Because the professionals are employed and paid by a single organization, there is the inherent fear of bias. This is particularly dangerous in civil litigation or criminal litigation with high stakes where witnesses can be tempted to use forensic reports prepared by privateers to suit the narrative of the party that has hired them.¹⁴⁰⁴ In contrast to such countries as Germany or France, where a neutral expert is often appointed by the court, India does not have a system to appoint experts, that is why the battle of experts is observed instead of seeking the truth.¹⁴⁰⁵

d) Sluggishness Because of Overloaded Forensic Infrastructure.

The other significant practical challenge in India is the time lag in procuring expert reports especially those by government forensic science laboratories (FSLs). The infrastructures are undermenaced, understaffed and overworked.¹⁴⁰⁶ Delay in producing forensic reports is not rare, particularly in the states with low resources, which can be several months and even years. These delays will influence the speed of the trial process and will frequently cause the overtrial detainees to spend an extended time in prison. Forensic backlog has been cited by the National Crime Records Bureau (NCRB) as one of the major causes of criminal justice delays.¹⁴⁰⁷

e) Courts inconsistencies in assessing Expert Evidence

Yet another thorny point is the absence of uniform judicial principles on evaluation of expert evidence. Although the issuing of guidelines is common with the appellate courts, the application of these guidelines by the lower courts is very diverse. There are judges who put unnecessary weight on expert opinion which is unreasoned and those who reject the opinion without fair justification.¹⁴⁰⁸ Also, judges lack the necessary training to analyze scientific evidence particularly in new areas such as digital forensics, voice recognition and DNA analysis.¹⁴⁰⁹ This causes unpredictability and undermines the faith of people in the justice system.

VI. Reforms and practices in world jurisdictions

Different international jurisdictions have come up with institutionalized procedures to make expert opinion testimony more credible, neutral, and effective. India can learn a lot through these reforms, particularly how to curb prejudice, decrease waste of time, and enhance

¹⁴⁰¹ *Supra* note. 9, p. 336.

¹⁴⁰² Evidence Act 1995 (Cth) (Australia), s. 79; see also Expert Witness Code of Conduct (Australia).

¹⁴⁰³ AIR 1980 SC 531.

¹⁴⁰⁴ *Supra* note. 3, p. 211.

¹⁴⁰⁵ *Supra* note. 27, p. 178.

¹⁴⁰⁶ Government of India, Standing Committee Report on Forensic Science Infrastructure, Rajya Sabha, (2022), p. 13

¹⁴⁰⁷ National Crime Records Bureau, Crime in India Report (2021), Chapter 13.

¹⁴⁰⁸ Mohd. Aman v. State of Rajasthan, AIR 1997 SC 2960.

¹⁴⁰⁹ Pradeep Kumar, "Judicial Evaluation of Scientific Evidence in India: Challenges and Solutions," Journal of the Indian Law Institute, Vol. 61, No. 1 (2019), p. 95.

scientific discipline. One best practice that is worth highlighting is the application of court-appointed neutral experts especially in some jurisdictions such as the United Kingdom and Germany. Rule 35 of the Civil Procedure Rules in the UK permits the court to give appointments to a Single Joint Expert whose role is to aid a court but not either of the parties.¹⁴¹⁰ The court in Germany normally appoints experts on an official list, which is neutral and minimizes adversarial bias.¹⁴¹¹ The other useful reform is the pre-trial expert meeting and common report requirement, especially in the UK and Australia. Pretrial experts on both sides are invited, and this facilitates a scenario whereby the points of agreement and disagreement are determined, and a joint report is drawn that simplifies the trial process.¹⁴¹²

It is also important in standardization. One of the institutions that promote accreditation in the United States is the National Registry of Certified Forensic Scientists that requires experts to maintain the same scientific and ethical standards.¹⁴¹³ This assists in the consistency in the qualification of the experts and methodologies. To overcome judicial lack of familiarity with technical evidence, in most jurisdictions, specialized judge training in evaluating expert testimony has been created. Judicial education in Canada and Australia contains courses on scientific methods, forensic techniques and assessment of complex expert reports.¹⁴¹⁴

Finally, the use of legal technology such as video conferencing, virtual reconstructions, and 3D forensic animations has enhanced the availability of, and understanding of, expert evidence, particularly on remote or complex cases.¹⁴¹⁵ The practices enhance understanding and minimize logistical limitations.

¹⁴¹⁰ Civil Procedure Rules (UK), Rule 35.

¹⁴¹¹ *Supra* note. 27, p. 179.

¹⁴¹² Freckelton I. and Selby H., *Expert Evidence*, (Thomson Reuters, 5th ed., 2013), p. 450.

¹⁴¹³ National Registry of Certified Forensic Scientists (U.S.), accessed September 2025.

¹⁴¹⁴ Canadian Judicial Council, *Judicial Education Programs*, 2023.

¹⁴¹⁵ Thomson R., “Technology in Expert Testimony: The Future of Evidence,” *International Journal of Legal Tech*, Vol. 12 (2022), Thomson R.,

VII. Case Law Analysis

The opinion of an expert, especially during trial, has been the subject of judicial decisions that have been critical in determining the extent, admissibility, and consideration of expert opinion. The courts have reiterated over and over again that care must be taken, that there should be corroboration, and that such evidence must be scientifically reliable. In this section, the author identifies the important case law in India, the United States, Australia and the United Kingdom that show how the judiciary has changed.

India

The Supreme Court in *State of H.P. v. Jai Lal* emphasized that independent and cogent material should always be used to corroborate the expert evidence. The Court noted that experts are not infallible and their views cannot be subject to definitive treatment.¹⁴¹⁶ It believed that the court should review the issue of whether the opinion relies on the established principles and the arguments are logically sound and persuasive. The case is often referred to in order to remind trial courts of their obligation of critically reviewing and not simply relying on expert reports.

In *Selvi v. The state of Karnataka* in which the Supreme Court was tasked with determining the admissibility of a narco-analysis, polygraph examinations, and brain mapping found them inadmissible unless performed with the agreement of the accused.¹⁴¹⁷ The Court held that this is because such techniques were against the right against self-incrimination, as provided in Article 20(3) of the Constitution, and did not pass the test of scientific reliability. The ruling was on the need of constitutional protection regarding the admissibility of expert evidence.

United States

“Technology in Expert Testimony: The Future of Evidence,” *International Journal of Legal Tech*, Vol. 12 (2022).

¹⁴¹⁶ *Supra* note. 7.

¹⁴¹⁷ *Selvi v. State of Karnataka*, (2010) 7 SCC 263.

The Daubert v. Merrell Dow Pharmaceuticals changed the American legislation on expert evidence. The U.S. Supreme Court overruled the old-fashioned general acceptance test (Frye test) and presented a scientific reliability test as dictated by Rule 702 of the Federal Rules of Evidence.¹⁴¹⁸ The Court stipulated some of the factors such as testability, peer review, the established error rates, and the overall acceptance to inform the judges in their gatekeeping role.¹⁴¹⁹ This is a case that has impacted the whole world and has resulted in higher admissibility standards.

Australia

In R v. Bonython the south Australian Supreme Court decided that expert evidence should address two conditions to be admissible; first that the subject matter is outside common knowledge and needs expertise; and second that the individual providing the opinion is competent in that area.¹⁴²⁰ This two-prong test is commonly used in the Australian courts and has also affected other jurisdictions such as India. The Bonython principle warrants that the courts make use of expert evidence that is credible and necessary.

United Kingdom

In R v Dlugoz, The Court of Appeal in England considered the admissibility of forensic speech recognition evidence.¹⁴²¹ The Court decided that the evidence relating to expert voice comparison is not admissible when it failed to fulfil the minimum requirement of reliability. It stressed the necessity of scientific basis and methodological rigour, which opined that subjective impressions or non-verified techniques may be biased. The case highlights the hesitation of the UK regarding the new methods of science in expert witnessing.

These are landmark cases which demonstrate the increasing world opinion that expert opinion should be reliable, corroborated and

scientifically valid. In comparison to such jurisdictions as the U.S., the UK, and Australia, India has been progressing still in terms of judicial approach that is less organized. These international determinations can be improved by bringing the purity of doctrine to the evidence of the experts in Indian courts.

VIII. Effects of Scientific and Technological Developments

The environment of expert opinion evidence has changed radically due to the introduction of technology and sophisticated scientific applications, including DNA forensics, digital forensics, and artificial intelligence (AI). These advances have contributed greater accuracy and probative quality to expert evidence, although they have also brought about complicated legal and procedural difficulties, especially in those jurisdictions where the legal systems are slow to keep up with them, such as in India.

DNA forensics has emerged to be one of the surest types of scientific evidence in the world. Courts in India have received DNA evidence in criminal cases such as paternity, rape and murder, as long as the chain of custody and the testing procedures are duly observed.¹⁴²² Nevertheless, this has presented irregular judicial treatment given that there has been no detailed DNA law until recently with the DNA Technology (Use and Application) Regulation Bill, 2019.¹⁴²³ The phone and email data, on the other hand, as well as surveillance, which fall under digital forensics, has become a more vital area. However, in India, there are issues in the authentication and admissibility of the electronic records as provided in the Bharatiya Sakshya Adhiniyam¹⁴²⁴ 62 and 63. Conversely, other jurisdictions, such as the UK and U.S., have come up with elaborate procedures and

¹⁴¹⁸ *Supra* note. 12.

¹⁴¹⁹ Federal Rules of Evidence, Rule 702 (U.S.).

¹⁴²⁰ R v. Bonython (1984) 38 SASR 45.

¹⁴²¹ R v. Dlugosz [2013] EWCA Crim 2.

¹⁴²² State of Haryana v. Bhagirath, AIR 1999 SC 2005.

¹⁴²³ DNA Technology (Use and Application) Regulation Bill, 2019 (India).

¹⁴²⁴ Bharatiya Sakshya Adhiniyam, 2023, ss. 62 - 63 see also Anvar P.V. v. P.K. Basheer, (2014) 10 SCC 473.

technical specifications in dealing with digital evidence.¹⁴²⁵

More worrying is the application of AI in the areas of expert system, e.g. predictive analytics or forensic pattern recognition. Although AI tools may help to filter large data collections or even automatically come up with reconstructions, their admissibility is doubted because of the absence of transparency in algorithms (black box problem).¹⁴²⁶ The Indian Courts are at a tender phase of considering such evidence, and the world courts are shifting to an explainability framework of evaluation coupled with validation.

IX. Recommendations and Way Forward of India.

Comparative analysis of the evidence of expert opinion shows that the legal system of India, despite its progressive changes, needs severe reforms in order to increase the reliability, fairness, and efficiency of a court procedure involving the expert evidence. Based on the lessons of global experience and the inability to solve systemic issues, the following recommendations are offered to offer a framework of the Indian justice system on the use of the expert evidence.

a) Adoption of Judicial Standards

It does not have a well-defined judicial gatekeeping rule such as to the U.S. Daubert standard or the Mohan test of Canada. The use of expert opinions in courts is often done without stringent examination of scientific verifiability or opinion methodology.¹⁴²⁷ Taking a different approach that will give authority to the Indian judges to assess the relevance, reliability, and scientific basis of expert evidence and then admitting it to the court. This would contribute towards acts of screening out unscientific and guarding against false conviction. This reform should be supplemented with training

programs on scientific principles and standards of evidence to the judges.¹⁴²⁸

b) Introduction of National registry/ accreditation body of Experts

The lack of standardized process and accreditation of experts is a thorn in the flesh in India.¹⁴²⁹ The establishment of a national expert registry that will be held by an independent statutory institution would result in having only qualified and reviewed experts to testify in courts. A body like this may establish minimum educational and professional qualification, control behavior and assess continuing competence. Equivalent organizations are found in the U.S. (e.g., National Registry of Certified Forensic Scientists) and Australia, which improves the quality and credibility of expert evidence.¹⁴³⁰

c) Increased Application of Court-appointed Independent Experts

The main problem with the current system is that Indian courts depend mainly on expert opinion as anointed by the parties, which raises concerns over biasness and even opposing views. There is need to influence courts to introduce neutral, independent experts as it is the case in the UK and Germany to minimize any form of manipulating expert evidence. The courts may keep a list of certified specialists in other areas whose services can be enlisted by the judges to give an independent opinion. Such a system would lead to fairness and assist the court in making scientifically valid decisions.

d) Judiciary and lawyer training There is greater complexity of science evidence, there is a great need to train judges, prosecutors and defense lawyers through special training and further education in law. It is important to know technical methodologies, limitations and error rates so that expert evidence can be evaluated critically.¹⁴³¹ This gap in understanding must be addressed by including forensic science and

¹⁴²⁵ UK Criminal Justice Act 2003; U.S. Department of Justice, Electronic Crime Scene Investigation Guidelines (2020).

¹⁴²⁶ Casey E., "AI and Forensics: Challenges of Admissibility," Journal of Digital Evidence, Vol. 17 (2022), p. 88

¹⁴²⁷ *Supra* note. 9, p 342.

¹⁴²⁸ *Supra* note. 43, p 98.

¹⁴²⁹ *Supra* note. 8, p 250 -299.

¹⁴³⁰ *Supra* note. 27, p.179.

¹⁴³¹ Canadian Judicial Council, Judicial Education Programs, 2023.

digital evidence and new technologies in the curriculum of judicial academies and bar councils.

e) Harmonization with International Best Practices India needs to develop its rules concerning expert evidence based on international standards with Indian adjustments to the global innovations. This consists of embracing pre-trial expert meetings to promote consensus reports, use of legal technology to conduct virtual hearings and expert presentations, and provision of procedural protections against unreliable scientific methods.¹⁴³² This addition will enhance the reliability and consistency of the Indian courts and their ability to deal with expert evidence of complex nature in a globalized court system.

These reforms have to be introduced as a concerted effort of the legislature, judiciary, forensic institutions, and legal professionals etc. The process of judicial strengthening through judicial gatekeeping, standardization of the qualification of experts, neutrality, and increasing the competence of the judiciary can help develop an efficient system in India to maximize the probative value of expert opinion evidence and reduce various risks of bias and error. In addition to enhancing fairness during a trial, these changes will ensure that people develop confidence in the justice system.

X. Conclusion

A comparative overview of the evidence of expert opinion, it is seen that in such countries as the United States, the United Kingdom, Canada, and Australia, the standards are quite evident and structured, whereas in India, the approach was not yet so clear and constant. International courts are very rigid with using rigorous judicial gatekeeping in the admission in expert evidence that must be scientifically reliable and relevant. They further promote the application of non-partisan, court-selected

experts in order to minimize bias and seek fairness.

The current legal system in India governed by the BSA has contributed to the possibility of expert opinion but it typically does not undertake critical analysis, adequate uniformity of expert qualification, and adequate protection against bias testimony. Also, new scientific methods such as the use of DNA forensics and digital evidence are challenging the Indian courts as they learn more on how to effectively deal with them. To India there is need to reform the expert opinion jurisprudence. Accreditation of experts, nomination of independent experts and training of judges will help to enhance quality and reliability of expert evidence to come up with the proper admissibility standards. Notably, there has to be a balance between the use of scientific input and keeping of judicial discretion. Only the expert opinions can help not substitute the work of the judge to interpret facts and make a decision. These reforms will help Indian judiciary equitably try defendants and enhance the confidence in the justice system.

¹⁴³² Freckelton I. and Selby H., Expert Evidence, (Thomson Reuters, 5th ed., 2013).