ADMISSIBILITY OF AI-GENERATED EVIDENCE IN INDIAN COURTS: A CRITICAL ANALYSIS UNDER THE INDIAN EVIDENCE FRAMEWORK

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ABSTRACT

The rapid incorporation of artificial intelligence (AI) into law enforcement and judicial processes has begun to reshape how evidence is generated, analysed, and presented before courts. Indian investigative agencies increasingly rely on tools such as facial recognition software, predictive analytics, and algorithmic forensic systems. Despite this growing reliance, Indian evidence law—primarily governed by the Indian Evidence Act, 1872—does not explicitly address evidence generated through autonomous or semi-autonomous AI systems. This article critically examines whether AI-generated evidence can be accommodated within the existing evidentiary framework without compromising constitutional guarantees of fairness and due process. It analyses the applicability of statutory provisions governing electronic and expert evidence, while also engaging with judicial precedents on technological evidence. The article argues that although courts may admit AI-generated evidence through purposive interpretation, the lack of transparency, explainability, and accountability inherent in many AI systems poses serious challenges to the right to a fair trial. By engaging with comparative jurisprudence and constitutional principles, this article highlights the urgent need for judicial guidelines and legislative reform to ensure that the use of AI-generated evidence strengthens, rather than undermines, the administration of justice.

Keywords: Artificial Intelligence, Electronic Evidence, Indian Evidence Act, Fair Trial, Algorithmic Accountability.

INTRODUCTION

Artificial intelligence is no longer a speculative concept confined to academic discourse; it has become a tangible presence within contemporary legal systems. In India, law enforcement

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agencies are increasingly deploying AI-based technologies such as facial recognition tools, automated surveillance systems, and predictive crime-mapping software. Simultaneously, the judiciary is engaging with AI-driven research tools and digital infrastructure initiatives under the broader e-Courts project. While these developments promise efficiency and technological advancement, they also raise complex legal questions—particularly concerning the nature and admissibility of AI-generated evidence.

The Indian Evidence Act, 1872, continues to serve as the principal statute governing evidentiary admissibility. Although amendments recognising electronic evidence have been incorporated, the Act was drafted in a period when evidence was understood as the product of human observation or mechanical recording. AI-generated evidence, by contrast, often emerges from opaque algorithmic processes involving minimal direct human intervention. This fundamental distinction necessitates a careful reassessment of existing evidentiary principles.

UNDERSTANDING THE NATURE OF AI-GENERATED EVIDENCE

AI-generated evidence differs significantly from traditional electronic records. While electronic evidence such as emails or CCTV footage merely records human activity, AI systems actively analyse data and generate outputs based on probabilistic models. Facial recognition software, for instance, does not "identify" an individual in the conventional sense but produces a likelihood score based on algorithmic correlations.

A defining concern with such systems is their lack of explainability. Scholars have described this phenomenon as the "black box" problem, wherein even system designers may be unable to fully explain how a specific output was produced.[1] This poses serious challenges for courts, which are institutionally required to assess reliability, relevance, and probative value.

APPLICABILITY OF THE INDIAN EVIDENCE ACT

Electronic Evidence under Sections 65A and 65B: Sections 65A and 65B of the Indian Evidence Act govern the admissibility of electronic records. Judicial interpretation has consistently held that compliance with Section 65B—particularly the requirement of a

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[1] Frank Pasquale, The Black Box Society (Harvard University Press 2015).

certification —is mandatory.[2] The rationale underlying this strict approach is to ensure authenticity and prevent manipulation of digital evidence.

However, applying this framework to AI-generated evidence exposes its limitations. Section 65B assumes the existence of a clearly identifiable device and a responsible individual capable of certifying its operation. In the case of AI systems that function autonomously or rely on continuously evolving algorithms, identifying such an individual becomes problematic.

Expert Evidence under Section 45: Courts may attempt to address these concerns through expert testimony under Section 45 of the Evidence Act. Indian courts have historically relied on expert evidence in matters involving scientific complexity.[3] However, the efficacy of expert testimony in the context of AI-generated evidence remains limited.

Experts may explain how an AI system functions in general terms, but they may be unable to justify or replicate specific outputs produced by machine-learning models. This limitation raises questions about whether courts can truly evaluate the evidentiary weight of AI-generated material or are instead compelled to rely on it as an authoritative assertion.

JUDICIAL ENGAGEMENT WITH TECHNOLOGICAL EVIDENCE

Indian courts have demonstrated a willingness to adapt evidentiary principles to technological change. In Anvar P.V. v P.K. Basheer, the Supreme Court emphasised strict procedural safeguards to preserve the integrity of electronic evidence.[4] This approach was reaffirmed in Arjun Panditrao Khotkar v Kailash Kushanrao Gorantyal, where the Court clarified the mandatory nature of certification requirements.[5]

While these judgments underscore judicial caution, they remain premised on the assumption that electronic evidence is a passive digital record. AI-generated evidence, by contrast, involves active analytical intervention, making a direct application of existing jurisprudence insufficient.

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[2] Anvar P.V. v. P.K. Basheer (2014) 10 SCC 473.
[3] State of HP v. Jai Lal (1999) 7 SCC 280.
[4] Anvar P.V. v. P.K. Basheer (2014) 10 SCC 473.
[5] Arjun Panditrao Khotkar v. Kailash Kushanrao Gorantyal (2020) 7 SCC 1.

CONSTITUTIONAL DIMENSIONS: FAIR TRIAL AND EQUALITY

The admissibility of AI-generated evidence must be examined through the lens of Article 21 of the Constitution, which encompasses the right to a fair trial. The Supreme Court has repeatedly affirmed that procedural fairness is not merely a formal requirement but a substantive guarantee.[6]

AI-generated evidence raises serious due process concerns, particularly where the defence is unable to meaningfully challenge algorithmic outputs. The principle laid down in Maneka Gandhi v Union of India—that any procedure affecting liberty must be just, fair, and reasonable—becomes especially relevant in this context.[7]

Additionally, algorithmic bias may result in disproportionate harm to marginalised communities, raising concerns under Article 14. Empirical studies have demonstrated that facial recognition systems frequently exhibit higher error rates for certain demographic groups.[8] Such outcomes undermine the constitutional promise of equality before the law.

COMPARATIVE INSIGHTS

Comparative jurisprudence highlights growing judicial unease with opaque algorithms. In State v Loomis, the Wisconsin Supreme Court permitted the use of algorithmic risk assessment tools but cautioned against their determinative use due to transparency concerns.[9] Similarly, the European Union's GDPR reflects a rights-based approach by recognising protections against fully automated decision-making.[10] These developments suggest that technological efficiency must be balanced against procedural safeguards—a lesson that holds particular relevance for the Indian legal system.

KEY CHALLENGES IN ADMISSIBILITY

The principal challenges associated with AI-generated evidence include:

- Opacity, which prevents meaningful judicial scrutiny
- Bias, arising from flawed or unrepresentative training datasets

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[6] Hussainara Khatoon v. State of Bihar (1980) 1 SCC 81.
[7] Maneka Gandhi v. Union of India (1978) 1 SCC 248.
[8] Joy Buolamwini and Timnit Gebru, 'Gender Shades' (2018).
[9] State of Loomis 881 NW 2d 749 (Wis 2016).
[10] Regulation EU 2016/679 (GDPR), art. 22.

- Chain of custody issues, particularly where AI systems evolve over time

Together, these challenges necessitate a cautious and principled approach to admissibility.

RECOMMENDATIONS

This article proposes:

1. Judicial guidelines mandating transparency and disclosure.
2. Legislative amendments recognising AI-generated evidence explicitly.
3. Independent audits of AI systems used in criminal justice.
4. Continued human oversight in evidentiary decision-making.

CONCLUSION

AI-generated evidence represents a profound shift in proof before courts. While its potential benefits cannot be ignored, its unregulated use threatens foundational principles of criminal justice. The Indian legal system must therefore engage critically with AI technologies, ensuring that innovation does not come at the cost of fairness, accountability, and constitutional rights.