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## Reliability and Admissibility of Fingerprint Evidence in India

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### ***Abstract:***

Fingerprint has been long considered one of the most reliable types of forensic evidence used for identification in criminal investigations. Fingerprints are unique and permanent, making them useful in determining a suspect's identity and linking individuals to crime scenes. Fingerprint evidence has been accepted as a significant kind of expert evidence by Indian courts. Yet, questions regarding the scientific integrity of human fingerprint examination methods as well as issues related to human error, technology and procedural safeguards continue to warrant interest from the academic community and courts. This paper explores the legal regime surrounding fingerprint evidence in India. It finds that fingerprint evidence is still very persuasive, but the evidentiary value of fingerprints depends on proper collection, preservation, scientific examination and expert interpretation.

**Keywords:** Fingerprint Evidence; Forensic Science; Expert Opinion; How to cite the article

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### **Introduction**

Fingerprint evidence holds an important place in contemporary forensic science and criminal justice administration. Fingerprinting as a means of individual identification started with the creation of fingerprint classification systems in colonizing India by founders like Sir Edward

Henry. The science behind fingerprint identification is that no two people have the same fingerprints, and the patterns of someone's fingerprints stay mostly constant throughout their life. Fingerprint evidence is widely utilised in the investigation of murder, theft and its aggravated forms such as burglary and robbery, sexual offences and unknown person identification. To determine whether latent fingerprints after an offense can be linked to the accused suspect, courts typically rely on expert testimony. Despite widespread acceptance, issues related to examiner bias, poor impressions, contamination and lack of universally agreed matching criteria remain. These issues raise serious questions about the reliability and admissibility of fingerprint evidence.

### **Research Methodology**

The methodology discussed in this study is doctrinal, analytical. The research was conducted using secondary sources including statutes, case law, textbooks, journal articles, government publications and the forensic science literature.

### **Concept of Fingerprint Evidence**

Fingerprint is defined as ridge patterns found on fingers and thumbs of humans. Such ridge formations yield specific traits called minutiae, such as ridge endings (where a ridge ends), bifurcations (where two ridges meet), islands or dots, and enclosures. When latent fingerprints are found at crime scenes, forensic experts compare them with known fingerprints of suspects to identify the perpetrator.

The major classes of fingerprints are:

- Patent Fingerprints
- Latent Fingerprints
- Plastic Fingerprints

Types of Fingerprint Analysis The ACE-V Method: ACE means Analysis, Comparison, Evaluation and Verification. it examines as:

- Analysis
- Comparison
- Evaluation

- Verification

This approach underlies the vast majority of forensic fingerprint examinations around the world.

### **Reliability of Fingerprint Evidence**

Fingerprint ID is, by and large, regarded as extremely accurate for two very basic scientific principles:

**Unique**– As per scientific studies each fingerprint ridge characteristics are unique. No two people have been found to have the same fingerprints — not even identical twins.

**Permanence**– Fingerprint patterns cannot change over the life of an individual unless caused by very severe injury or disease.

**Supporting Reliability**- Fingerprint evidence continues the track record of being one of the most reliable types forensic pieces of evidence and this is because each fingerprint pattern is both unique to an individual and permanent. In India, this is considered to be admissible under the Bharatiya Sakshya Adhiniyam, 2023 as expert testimony on finger impressions. Fingerprint evidence, if collected preserved and analyzed according to scientific methods by competent personnel is a generally accepted form of evidence. Nonetheless, its accuracy may vary based on some parameters included not-quality stamps, human fault and wrong conduct of evidences. Thus, fingerprint outcome is likely to be very strong in a criminal matter but usually it is interpreted together along with other supporting evidence to provide justice.

Section 45 of Indian Evidence Act, 1872 (now Sec 39 Bharatiya Sakshya Adhiniyam,2023) was also considered in view of Satisfactory evidence i.e fingerprint expert opinion.

**Table 1- Admissibility under Indian law**

| Legal Provision                                                                      | Relevance                                                       |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>Section 45, Indian Evidence Act, 1872 (now Bharatiya Sakshya Adhiniyam, 2023)</b> | Makes expert opinion on finger impressions admissible evidence. |

|                                                      |                                                                                                   |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Criminal Procedure (Identification) Act, 2022</b> | Authorizes collection of fingerprints and other biometric measurements from accused and convicts. |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------|

|                         |                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------|
| <b>Court Precedents</b> | Courts regularly admit fingerprint expert reports when prepared through scientific methods. |
|-------------------------|---------------------------------------------------------------------------------------------|

**Source:** Government of India (1872) The Indian Evidence Act, 1872 (Act No.1 of 1872) New Delhi: Ministry of Law and Justice

Criminal Procedure (Identification) Act, 2022 authorizes police or other law enforcement agencies to take fingerprints and other physical measurements of the accused and convicted persons for the purpose of investigation. In addition, Indian courts have previously admitted fingerprint expert reports as credible evidence so long as they are processed and analysed through appropriate scientific methods.

Fingerprint evidence Admissibility Facts Table no. 2 Data Type: Evidence Legal Concept A fingerprint is a forgery of an original fingerprint, which may or may not exist in the world. However, this also means that for all information to be relevant, we first need this fingerprint recognition. Capacity The admissibility of fingerprints has been defined through expert opinions on the fingerprints law in India. In India, any document received as evidence should naturally find its feet upon Section 45 (Expert opinion) of Indian Evidence Act. Thus, under section 39 of Bharatiya Sakshya Aadhiniyam, 2023; it recognises expert statement [including disclaimers above] as relevancy topic. Under the Criminal Procedure (Identification) Act, 2022, investigating agencies can extract fingerprints and other biometric measurements of accused persons and convicts. These laws provide a statutory basis for the use of fingerprint proof in criminal investigation and prosecution. Judgments of the Supreme Court have further clarified and extensively accepted evidence provided by fingerprint experts (Murari Lal v. State of Madhya Pradesh), Musheer Khan v. State of Madhya Pradesh) That is why fingerprint proof forensically collected, analyzed and fielded by court competent experts is universally accepted by Indian courts.

Table 2 — Official legal sources and landmark rulings

| Legal Provision                                                                                  | Relevance                                                                                                                                                                                          | Source                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Section 45, Indian Evidence Act, 1872 (now Section 39, Bharatiya Sakshya Adhiniyam, 2023)</b> | Makes the opinion of experts, including fingerprint experts, admissible in court proceedings.                                                                                                      | Government of India. <i>Indian Evidence Act, 1872</i> , Section 45; <i>Bharatiya Sakshya Adhiniyam, 2023</i> , Section 39.                                                  |
| <b>Criminal Procedure (Identification) Act, 2022</b>                                             | Authorizes police and prison authorities to collect fingerprints, palm prints, footprints, photographs, iris and retina scans, and other biometric measurements from accused persons and convicts. | Government of India. <i>Criminal Procedure (Identification) Act, 2022</i> .                                                                                                 |
| <b>Court Precedents</b>                                                                          | Courts have consistently held that fingerprint expert evidence is admissible when scientifically collected, examined, and presented by qualified experts.                                          | Musheer Khan v. State of Madhya Pradesh, (2010) 2 SCC 748; Murari Lal v. State of Madhya Pradesh, AIR 1980 SC 531; State of Maharashtra v. Sukhdeo Singh, AIR 1992 SC 2100. |

**Source** - September 1872 – India: Government of India, ‘The Indian Evidence ACT’, Act No. 1 of 1872, Section 45  
New Delhi: Ministry of Law and Justice

### **Fingerprint evidence — Legal regression in India**

#### **Bharatiya Sakshya Adhiniyam, 2023**

Through the Bharatiya Sakshya Adhiniyam, 2023 expert opinion about finger impressions has been identified as relevant evidence. Expert opinion as to the existence or non-existence of something is also relevant under section 39 of the act wherein the court is required to form an opinion upon a point of science, handwriting finger impressions etc.

Criminal Procedure (Identification) Act, 2022

The Act provides the power to take fingerprints and other biometric measurements of certain classes of individuals for investigation purposes. This legislation broadens what data personnel can gather when conducting criminal investigations.

#### Admissibility of Fingerprint Evidence

Jan Sevros Fingerprints: Ø The evidence is admissible as expert evidence if the fingerprint witness:

- The fingerprint is collected lawfully.
- Chain of custody is done in a proper way.
- Date is examined scientifically by the expert.
- The expert can be subject to cross-examination.
- The information is relevant to facts in issue.

No, Indian courts usually interpret it as a corroborative testimony not through conclusive evidence unless there is additional supportive evidence.

#### Challenges in Admissibility

Fingerprint evidence is subject to a number of challenges that call into question its admissibility, even in situations where it has reached scientific acceptance. Invalid fingerprints or without identifying information leaves room for uncertainty. Also, if the fingerprints were not collected and preserved properly, or the chain of custody was broken, this reduces its utility in court. Forensic conclusions in particular can take a hit from human error and varying expert interpretation. Moreover, the lack of common benchmarks for fingerprint comparison and verification may create difficulties when courts scrutinize the evidence.

#### Findings

Fingerprint evidence is recognized as one of the most reliable forms of forensic evidence in Indian criminal justice. The Bharatiya Sakshya Adhiniyam, 2023 recognizes its admissibility by expert opinion on finger impressions. Fingerprint evidence is only as reliable as the correct collection, preservation and scientific analysis of prints. Although it will not be without its flaws, human error, low-quality fingerprints and contamination can all reduce its effectiveness.

As a result, fingerprint evidence alone is rarely accepted in courts, which prefers to see supporting corroborative evidence before finding for the accused.

## Conclusion

The topic is relevant today due to its scientific basis, uniqueness and practical importance in India criminal justice system as fingerprint evidence continues to login as the most objective and credible. In this regard, fingerprints experts' opinions have been accepted as relevant evidence and courts can base themselves on forensic expertise to resolve facts in issue according to the Bharatiya Sakshya Adhiniyam, 2023. But, the fact that evidence is scientific in nature does not mean reliability can be presumed. Fingerprint Identification and the Evidentiary Value of Fingerprint Evidence. Despite the general consensus that fingerprint evidence is one of the most reliable forms of forensic science, it cannot be regarded as infallible. Courts need to rigorously examine expert testimony, particularly regarding whether scientific methods were properly applied. The efficacy of fingerprint evidence in India is contingent on stricter forensic standards, better admissibility criteria, more developed laboratory frameworks and judicial vigilance. These measures will help turn fingerprint evidence into a reliable tool for justice rather than a sore source of wrongful convictions.

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