

# The Mystery of a Financial Fraud unraveled through Document Examination

Rajat Choudhary<sup>1</sup>, Ravindra Sharma<sup>2\*</sup>, Devender Kumar<sup>3</sup>, Pankaj Mohan<sup>4</sup>

Deputy Director and Scientist-D, Central Forensic Science Laboratory, Bhopal,

<sup>1,4</sup> Scientist- B, Central Forensic Science Laboratory, Bhopal

<sup>3</sup> Asstt. Central Intelligence officer-I, Central Forensic Science Laboratory, Bhopal

**Abstract:-** A signature plays a vital role in our day-to-day life since it is used to authenticate the identity of individual. Its significance increases manifold when the identity of an individual required to be authenticated on certain documents of utmost importance such as financial, legal, business contracts, sale or purchase agreements, wills etc. Due to limited in extent, major importance signatures are decisive to be forged by the fraudster. As such, every minute phase of this small production of human hand and brain should be scrutinized and analyzed in every possible way. The additional analysis of document as a whole may be helpful in gathering evidences to ascertain the modus operandi of the fraudster. In the present case study, authors examined the suspected signatures along with the other writing attributes available on the suspected documents and inter se comparison of writing medium (ink) used to execute the handwritings. The additional information assembled after such examination by the Forensic Document Examiner (FDE's) plays a significant role to concur the mystery behind this sensitive financial fraud by the fraudster.

**Keywords:** Handwriting & Signatures, ink, fraudster, FDE's

## 1. INTRODUCTION:

Financial Fraud can encompass any crime to gain financial assets that uses deception as its principal modus operandi. It includes any intentional or deliberate act to deprive another of property or money by guile, deception, or other unfair means. Financial fraud may be performed through variety of illegal practices. Forgery of signatures and thereafter the use of forged documents as genuine for the purpose of obtaining financial assets is one of the common illegal practices to commit fraud. The document should be examined thoroughly as a whole for the detection of any possible clues of fraudulent alteration, modification, simulation or falsification. The document generally has three main components: the text, the signature and the medium (ink). The document itself is only genuine if each of its component parts has not been interfered with. (1) The text- in a given document the 'information' role is played by the text. The clear the text, the better this role is fulfilled. (2) The signature- played important role/purpose for 'acceptance' of the text which proceeds it. i.e. the person signing agrees with the text (e.g a receipt); 'authorship' i.e who wrote the text (e.g a letter). (3) The inks- is used in the execution of documents are valuable aspect of examining financial fraud cases. Sometimes inks with similar appearance may depict different behavior when illuminated under specific frequency of light. The discipline of handwriting examination proceeds on the basis of experience and observations. The principles of handwriting identification must be considered to ascertain whether the facts observed by one individual are acceptable by everyone or are subjective in their character.

## 2. BRIEF OF THE CASE:

In the present case of financial fraud, victim invested in a financial scheme of an organization by purchasing financial certificates. As per the terms and conditions of the scheme, the value of financial certificates will be double after specified time period (Maturity). On maturity the victim deposited the financial certificates to the said organization through a financial agent along with his bank account details for the receipt of maturity amount. After the laps of about one-two months, victim noticed that the amount was not credited to his bank account. Thereafter, he approached the organization to clarify the issue. He was stunned to know that the maturity amount was already credited to his saving account with that organization and the same was debited manually using three withdrawal slips each bearing his signatures. The victim denied the signatures on the withdrawal slips and also to have any saving account with that organization. Accordingly, forty-five numbers of financial certificates, three withdrawal slips, application for opening saving account each bearing disputed signatures along with genuine specimen signatures of victim were received in the laboratory to authenticate the authorship.

## 3. LABORATORY EXAMINATION:

The examination of signatures on three withdrawal slips and on application for opening saving account reveals fundamental divergences in the minute and inconspicuous details of formation of characters and their combinations in comparison with the specimen signatures. The unusual pen pauses and pen lifts depicting sign of forgery were also observed in the disputed signatures (Fig 1).

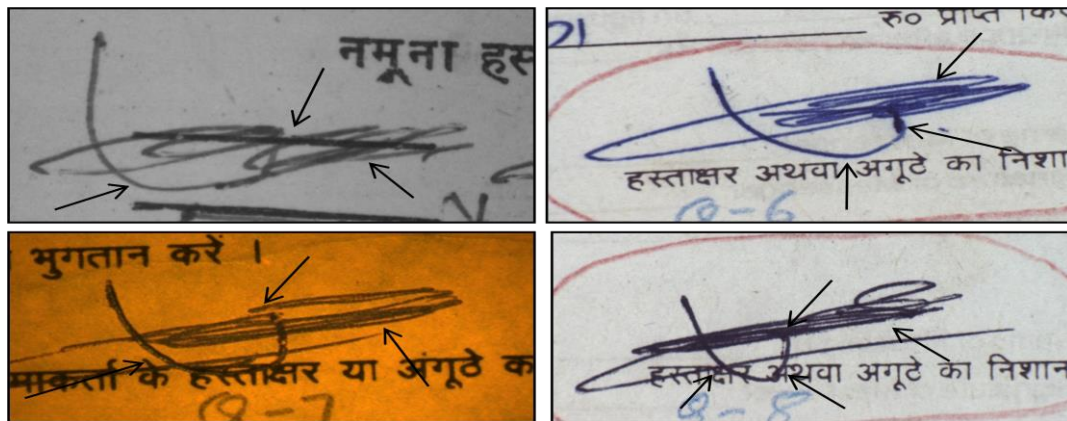


Fig 1: Simulated signatures depicting signs of forgery

The examination of disputed signatures on forty-five numbers of financial certificates reveals smooth and symmetrical construction of strokes, rhythm, natural variations and have inter- consistency among themselves. These disputed signatures are free from any signs of forgery. The comparison of disputed signatures with genuine specimen signatures shows characteristic similarities in the minute and inconspicuous details of formation of characters and their combinations. The absence of signs of forgery along with significant similarities in the disputed signatures in comparison with the genuine specimen signatures are the inscriptions of genuineness (Fig 2).



Fig 2: Disputed signatures depicting inscriptions of genuineness

There were writings in Devnagri script just above the disputed signatures on each financial certificate. These writings implicate that 'the maturity amount of this certificate may be credited to saving account no xxxxxxxx (disputed account)'. The examination of ink used for the execution of disputed signatures and the writings when illuminated under same wavelength of light illustrate different behavior due to its different chemical composition (Fig 3).

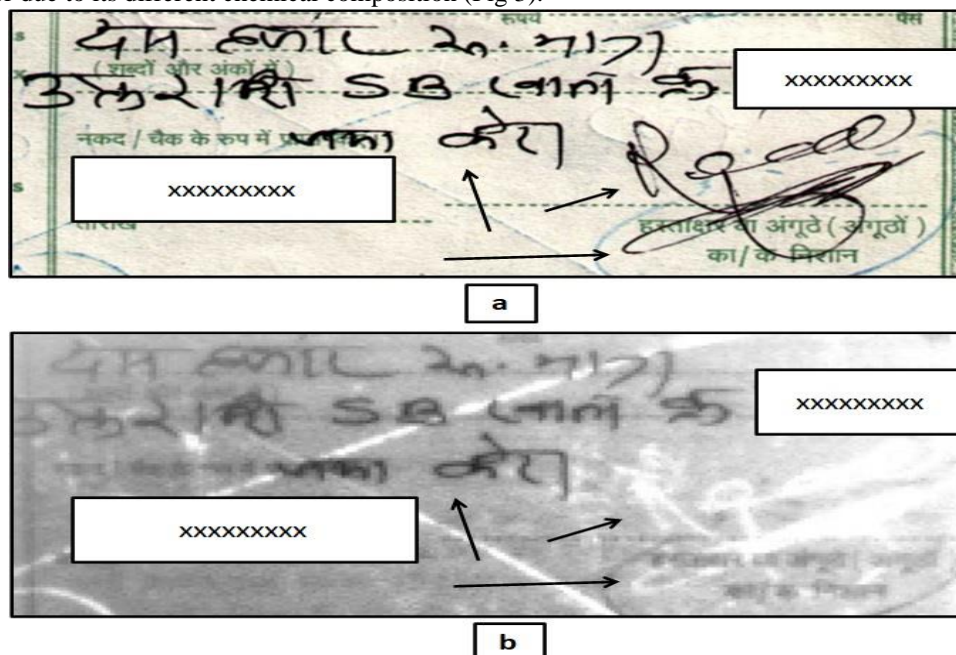


Fig 3 : (a) View under normal light- illustrate similar tint & luster of ink use in execution of text and signatures.  
(b) View under UV light- illustrates different tint & luster of ink use in execution of text and signatures.

Further inter-se-comparison of common available letters and their combinations in writings on financial certificates and on withdrawal slips reveals certain characteristics similarities in the writing habits (Fig 4).

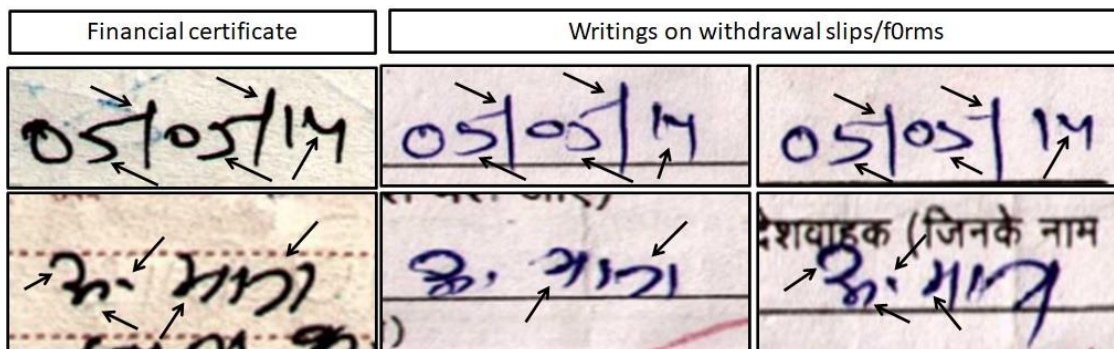


Fig 4: Characteristics similarities in the writing habits

#### 4. RESULT AND CONCLUSION

	Dispute	Result
1	Authentication of signatures on financial certificates	Genuine
2	Authentication of signatures on application for opening saving account	Forged
3	Authentication of signatures on withdrawal slips	Forged
	<b>Additional examination results</b>	
4	Comparison of Ink used for execution of signatures and writings on financial certificates	Different
5	Inter-se-comparison of writings on financial certificates and withdrawal slips	Similarities observed

The above-mentioned results infers that the provability of signing the financial certificates in advance by the victim and later the receipt note implicating 'the maturity amount of this certificate may be credited to saving account no xxxxxxxx (disputed account)' was added subsequently using different writing instrument could not be ruled out. The saving account was fraudulently opened by the fraudster to credit and debit the maturity amount of financial certificates.

#### 5. DISCUSSION AND PRECAUTIONS

It is not enough for FDE's to just confine to the queries of investigating agencies. They must examine the documents as a whole for detection of any possible evidences to ascertain the modus operandi used in committing crime. Disputed documents must be studied in depth, to bring out all those aspects which expose the fraudulent production of the document. These additional findings are very helpful in delivering justice to innocent and to nab the criminals. Under the circumstances, while coinciding with the views of Walter N. Hausen- "Proactive approaches may work best to identity the criminal networks that pose greatest threat to the financial community". The financial organizations should verify the identity of individuals in detail while opening the accounts as well as during transactions of money. The customers advised to use their own writing instruments to write and sign the bank instruments i.e withdrawal slips, checks etc. Bank officials should be attentive when dealing with a bank instrument which is written and signed with different inks. Proper training should be imparted to bank officials to deal with such type of frauds in Central/State Forensic Science Laboratories.

#### 6. REFERENCES

- [1] Huber R.A, Headrick A. M, Handwriting identification: Facts and fundamental, CRC Press, Boca Raton 1999.
- [2] Osborn A.S., Question documents, Boyd Printing Co., Albany 1929.
- [3] Mahesh Chandra JOSHI, Rajat Choudhary, Om Prakash Jasuja, Transposition Forgery through image processing- A fresh approach towards its examination and detection, Problem of Forensic Sciences 2009, vol. LXXIX, 338-347
- [4] W.N, Hasen, Combating Check Fraud: A Multifaceted Approach, FBI Law Enforcement Bulletin, vol. 68, issue 5, dated May 1999, Page 10-17.