

Challenges in forensic examination of photocopied document

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Abstract

In the modern age of digitalization and development of sophisticated all-in-one-machine, it has become apparent that the criminals/forgers are using more advanced methodology to commit a crime and they are also aware about the possibility of their identification through their handwriting examination using various writing instruments on paper. Hence, they are using an alternative option by opting machine generated forged documents in place of original document i.e. the photocopied document to eliminate the original identifying features of genuine document. They are forgetting the fact that every act of criminal activities remains the trace of evidence to connect with the criminal activities if noticed and scientifically examine by the forensic experts. Examination of photocopied signatures/ handwritings in order to ascertain the authorship of the writer is not an easy task. In this article, the author is focused on challenges and problems encountered by the forensic document experts in examination of photocopied documents (signatures and handwritings). Article further discusses about a simplified and systematic approach to conduct examination of photocopied document in order to express opinion for their true value of justice along with understanding the limitations of the forensic document field.

Keywords: Photocopied documents, Photocopier machine, Handwriting, Examination.

Introduction

In recent years, there is a significant increase in number of cases related with examination and identification of photocopied documents due to increased use of photocopier to produce photocopied documents in daily life. Availability of the advanced sophisticated equipments/instruments and photocopiers, all- in- one machine make easier for the criminals to counterfeit or forge the original documents in very easier way to manipulate or alter the original documents by scan, cut and paste method as per desire of their own. In such circumstances, examination of photocopied signatures/handwritings in order to ascertain the authorship of the writer is not easy task. Criminals are frequently using the photocopier machine to make a fraudulent document and fraudulent alteration done in a genuine document by adding some false portion or deleting some genuine portion of the document contents as well replacing complete sheet of genuine portion with fraudulent one for fulfilling the purpose of their own desire to commit crime. So, it is a big challenge for the forensic document experts to examine these photocopied documents for resolving various queries related with criminal cases. In many of the cases, examination of photocopied signatures/handwritings is very difficult in order to fix authorship of photocopied documents (signatures and writings) when the original documents are not available, either damaged or lost, in such cases the photocopy document is only present evidence. In this paper the author is focused on the problems and challenges encountered by a forensic document expert in examination of photocopied documents. Keeping the view in mind, study was carried out on the variety of the photocopied signatures and handwritings. The various complex questions are asked several times to

the forensic document expert, whether it is possible or not to examine the photocopied documents for detailed examination of handwriting characteristics features. Is it possible to collect all handwriting characteristics features from photocopied document; Is it a true reproduction of genuine ones; Whether it is original or fabricated and authenticity of photocopied document in absence of original etc.

Hilton (1984) and Ellen (1989) explained that photocopied documents not always give detailed handwriting characteristics, however sometimes the originally good quality photocopied signature/handwriting contains some adequate handwriting feature which helps in the useful comparison of question and standard documents. Found et.al in year 2001 explain their view about the detailed systematic approach and the skill of the document expert in preparing the opinion regarding the authorship on original and reproduction photocopied signature. Lavinson (2001) describes various method used in production of black photocopies. Found and Rogers (2005) described the detailed examination on various original signatures in comparison with the questioned photocopies of the same. This study gives extensive support to the forensic document examiner in examination of photocopied signatures and handwritings in order to ascertain the authorship. The complete discussion presented the overview about the forensic examination of photocopied document.

Challenges in examination of photocopied Documents (Signature/Handwriting): The forensic document experts conduct scientific examination, comparison and analysis of photocopied document in order to ascertain the authorship of handwritten text content as well as signatures, to established genuineness or non-genuineness, or to reveals the additions,

alterations, deletions in cases of forgery. In cases, where the photocopied document is only required to examine, in absence of original document it becomes more challenging to conclude an opinion based on limited data. There is certain limitation in examination of photocopied documents. Even every machine has its own limitation in reproducing the original documents. Hence it is very important to understand the photocopying process of different kinds of machine. To understand the detail characteristics of photocopied document of different machine it is necessary to make comparison between photocopied documents and original ones in detail, so that forensic document expert can able to study the limitations of various photocopying machines which would be definitely helpful for them encountering the actual cases related with photocopied document examination. In order to express opinion on photocopied document, it is worth to mention here that any expert opinion is based on collection of all relevant data and records available, systematically and scientifically during the process of examination of concerned documents in preparing observation notes which is also useful for the presentation of effective court testimony.

All the handwriting features are not exactly present in the photocopied documents. When the photocopied signatures are compared with the known original standard, the accurate judgment regarding line quality, ink morphology, ink gooping, hesitation, tremor, etc. is sometimes not possible to conclude. Expressing the opinion on poor quality of reproduced document is not justified. Hence, in such problematic circumstances, it is very difficult to fix the authorship of signature or handwriting in absence of original. The handwriting features like pen lift, pen skipping, pen pressure, pen patching and the most important thing is that the line quality of the stroke cannot be examine by the photocopied document. In examination of photocopied documents, the queries are also asked to find out the generation of particular photocopies. Expansion of strokes and baseline printing, discontinuity of stroke in letter formation, loss in smoothness of edge in executing the strokes in photocopied documents are useful in determining the generation of photocopied but to ascertain the authorship of the writer is difficult to find due to lack of evaluation of adequate and accurate handwriting features.

Apart from these problems, examination of watermark is also difficult which do not come in photocopied document. In case of traced forgery, indented outline do not come in photocopied document, so it is also very difficult to examine cases related with traced forgery by photocopied document. Traced forgery is made by tracing over an authentic signature in manner that guideline or indented outline of the signature on the document can be forged. The forger then retraces the indentation with any writing instrument. Signature and handwriting examination and

comparison problems from photocopies allow examination of various handwriting characteristics, individual letter formation, connection and combination of letters, individual position of i-dot and t-crossing etc. but limit the skill of forensic document examiner to evaluate evidence such as speed of execution of strokes, lifts of the writing instruments, retouching of stroke and other important evidence. It is often possible to identify a particular manufacturer and model and photocopier machine from a single reproduction made from that machine, which also depend upon the exhibits in the form of evidences supplied for the examination. In case of typewriter identification problems examined from photocopies is not very difficult, the defect present in photocopies which allow identifying the source of origin. Physical characteristics such as toner and defect marks which are produced on the photocopied document, during the process of copying of the document are also consider in examination for concluding opinion. Besides this, other typical problems encountered by the forensic document experts are examination of erasures, alteration and addition in the photocopied document which often hinders in examination rather than original document, because of reason that these are not recorded in photocopying processes. The forensic document experts sometimes hesitate to express technical reports and opinions on the authorship of photocopied signatures and handwriting due to the reason that all details of handwriting characteristic features including execution of strokes while making letters, there connection and combination in original signatures and handwritings are not possible to reproduced exactly same in photocopied documents, thus, finally the original documents are required to confirm the detailed study of execution of strokes for the scientific examination and opinion.

Result and Discussion

As discussed in previous section, during examination of the only photocopied document the forensic document experts come through various problems, however the positive aspects of the photocopied document examination is that certain writing characteristic features such as formation of letter, unusual letter formation, word and letter spacing, letter comparison, slant, flourishes or embellishments, diacritic placement, t-crossing position of i-dot are possible to examine and understand details. Main problems occur during the examination of line quality, speed of writing instruments, pen pressure difference in color of writing ink instrument, unusual correction or addition strokes, pen patching and retouching etc. It is important to note that original documents are always better for examination, since every successive copy shows some instant distorts with the original characteristic features of handwriting characteristics. Henceforth it is suggested for forensic document expert that it is the best situation to examine the first

generation copy taken from the good quality photocopying machine related with the true reproduction of genuine document. Various authors have different view regarding the examination of line quality from photocopy reproduction as well as the merit of the case examination in order to express opinion. The conclusion of examination is also depending upon the problem asked in particular case and the data available for framing opinion.

Extensive study based on examination of the photograph of handwritings and signatures as well as the examination in detail of handwritings and signatures of photocopied documents reveals that photograph gives more accurate and appropriate information regarding line quality and other handwriting characteristics in comparison with photocopied document. The photograph records the inconspicuous data or hidden data that becomes visible to the experts eye through the photograph during examination of handwritings and signatures. Henceforth, it is also very important to notice that photocopies are not equivalent to photograph in order to study the detailed handwriting characteristics in some instant. At present, no photocopier can give the detail and accurate reproduction of original ones. While photographs taken from original documents of signatures and handwritings provide the accuracy in calculating the detailed handwriting characteristics features for examination of quality print.

Different author have expressed their own views on this subject of interest regarding expression of opinion in identification of handwriting characteristic features from photocopied documents which can be utilize by the forensic document experts when they are examining the photocopied document. Standard authorities give extensive support for examination of photocopied document in order to ascertain the authorship or to solve the cases related query asked, such as in case of passport where the photocopied document are retained as a true reproduction from its mother documents. Examination of photocopied documents depends upon exhibits submitted for examination as well as the queries asked by the forwarding authority of the case. If any query is asked about the comparison of two different documents regarding its source of origin or whether the document is handwritten or photocopied. It is easy to express opinion on such queries.

Conclusion

The forensic examination of photocopied document requires great deal of understanding, education, knowledge, training and skill. The forensic document experts who practice within this profession often use their technical skill and wisdom for concluding opinion. Opinion given by the expert either definite or qualified based on examination of photocopied document is one of the concluding parts of the total evidence collected from such document. Moreover it is depending upon

the complete scientific evidence available in case for an expert to come on conclusion. Hence consideration of such opinion may be evaluated accordingly for their true value of justice. It is finally concluded that original document is always preferred by the forensic document experts to give opinion regarding the authorship of the written documents. It is important to explain that even good quality of copier cannot record accurately the exact detailed information of all writing characteristic features. It may also not possible to study the watermarks and sequence of strokes of crossing stroke from the photocopied document. Difficulty is also occurs in study of other handwriting features such as pen lift, pen pressure, pen patching and most important line quality of the stroke cannot accurately examined by the photocopied documents (signatures and handwritings).

The qualified opinion is given on the photocopied questioned signatures and handwritings. Opinion on photocopied document if expressed is subject to presumption that the examined documents are true copy taken from original document. Examination can only be possible by good quality of photocopier. However, in case where photocopied documents are the only evidence, it depends upon the skill, knowledge and experience of a forensic document expert while conducting photocopied document examination, it is very essential that one must rectify the all possible errors in examination of such photocopied document more systematically, scientifically and judiciously before concluding the opinion. In the view of author the opinions expressed by the experts are the honest inference, based on scientific analysis only for the purpose of their true value of justice. There is tremendous scope for innovation and upgradation in the modern scientific technologies for its application in order to solve the criminal cases, in a more efficient way to meet the future challenges of such forgeries of photocopied document examination cases.

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