

**HANDWRITING AS INDIVIDUALISATION TECHNIQUE IN FRAUD
INVESTIGATION**

by

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ABSTRACT

The aim of this research is to investigate how handwriting as an individualisation technique in fraud investigation can be used by police detectives, SARS investigators and forensic investigation specialists, who are responsible for the investigation and linking the perpetrator, with a view to criminal prosecution.

A further intent was to share and introduce a number of important concepts, namely: criminal investigation, identification, individualisation, fraud, evidence and handwriting. The research will explain the sophisticated investigation techniques used to obtain sufficient information to prove the true facts in a court of law. Identification is the collective aspect of the set of characteristics by which an object is definitively recognisable or known, while the individual characteristics establish the individuality of a specific object. Many types of evidence may be used to link an individual with a crime scene, and associate that individual with the performed illegal handling.

It also explained that during a cheque/document fraud investigation, it is in most cases the only link to information to trace, identify and individualise the perpetrator, and to obtain a handwriting specimen. It is also discussed how to eliminate a person being a writer of a document, and how to collect, package and mark a disputed document during the investigation. If the investigators use their knowledge of these concepts, it should enhance their investigative skills, and empower them to be become better equipped for the challenges they face in identifying, individualising and linking the perpetrators, in order to ensure successful prosecution and conviction.

KEY TERMS

Criminal investigation; Handwriting; Individualisation techniques;
Identification; Evidence; Investigator; Fraud; Forensic Investigation;
Dispute document; Investigation of crime.

STATEMENT OF OWN WORK
Student number 38380846

I, Cynthia Bernice Aschendorf hereby confirm that the dissertation titled:
“Handwriting as individualisation technique in fraud investigation” was
researched, compiled and drafted by myself and is indeed my own work.



Mrs. Cynthia Bernice Aschendorf

Signed at Alberton, South Africa, 28 February 2013.

STATEMENT OF OWN WORK
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All the participants who were willing to grant me interviews.

Marlette van der Merwe, who edited this dissertation.

LIST OF ABBREVIATIONS

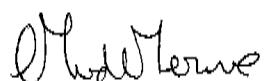
M Tech	- Magister Technologiae
SAPS	- South African Police Service
SARS	- South African Revenue Service
Technikon SA	- Technikon of Southern Africa
Unisa	- University of South Africa
MO	- Modus Operandi

CERTIFICATE FROM THE EDITOR

10 February 2013

I, Marlette van der Merwe, ID 4802060118085, hereby certify that the master's dissertation, "Handwriting as individualisation technique in fraud investigation", by Cynthia Bernice Aschendorf, has been edited by me, according to the referencing method used by Unisa.

Marlette van der Merwe



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CHAPTER ONE

GENERAL ORIENTATION

1.1 INTRODUCTION

Statistics presented during an information-packed one-day seminar that focused on solutions to forged signatures on cheques and documents, showed that this crime is rampant and ever-increasing in the corporate environment (Olivier, 2001:1). Further, based on the experience of the researcher, it appears from pre-research interviews with investigators from the Commercial Unit of the South African Police Service (SAPS), Johannesburg, and the investigators of South African Revenue Service (SARS) that they are not fully conversant with the latest methods and techniques used in investigating handwriting specimens, to individualise, identify and trace perpetrators.

Dowling (1997:2) claims that a primary task of the investigator is to identify who has committed the crime. The emphasis here falls on the perpetrator's involvement in the crime – i.e. the probability, based on facts and information collected, that a particular individual could have committed the crime, and that the facts collected are sufficient to justify the arrest of the individual (Marais & Van Rooyen, 1994:20; Du Preez, 1996:7). Once all relevant evidence has been collected and the perpetrator positively individualised, the investigator can proceed with the arrest of the criminal (Van Niekerk, 2000:4).

1.2 PROBLEM STATEMENT

The problem under investigation is that investigators are increasingly developing the attitude that handwriting specimens should be dealt with as part of the business community's bad debts, rather than be investigated thoroughly. It is important that investigators make a concerted effort, when investigating fraud cases, to ensure that they understand and know how to examine a fraudulent signature on a document or a cheque.

The researcher is active in investigation at the South African Revenue Service (SARS), and has learned from experience as a forensic investigator over the past thirteen years, that investigators need to be conversant with the latest methods and techniques used in the investigation of handwriting specimens, in order to identify the perpetrator. The researcher chose the topic because she has also experienced that investigators have a problem in investigating such cases. The researcher realised, after reading fraud case dockets as part of her daily duties in the SAPS, the crucial importance of the handwriting specimen as an individualisation technique in forensic investigation.

1.3 RESEARCH AIM

The aim of any research requires the collection and interpretation of data, in an attempt to resolve the problem that initiated the research. The aim of any research is to establish facts, gather information and data, and determine whether there are interesting patterns in the data (Mouton, 1996:103).

The aim of this research is to examine how handwriting can be utilised as an individualisation technique in the investigation of fraud.

1.4 DEMARCTION

According to Van Rooyen (2008:128), fraud, in its broadest term, is defined as obtaining something of value or avoiding an obligation by means of deception. There are different ways in which fraud can be committed, such as –

- fraud in general
- credit card fraud
- cheque fraud
- Nigerian '419' scam
- financial fraud
- computer fraud
- forgery and uttering

In this research the researcher will focus on misrepresentation done by means of handwriting.

1.5 RESEARCH PURPOSE

The statement of purpose indicates the focus and direction of the research, and provides criteria for the evaluation of the outcomes of the research. There must be a reason for doing the research, or else there would be no point in spending time, money and effort in undertaking the investigation (Denscombe, 2002:25). Maxfield and Babbie (2005:70) are of the opinion that research serves many purposes, such as exploration, description, explanation and application.

In line with Denscombe (2002:26-27), it is suggested that the research purposes in this study were to evaluate the existing procedures followed by investigators, and to see how the use of handwriting analysis could be used to individualise a suspect. This was to establish the value of existing procedures, in an attempt to determine their strengths and weaknesses. The researcher wanted to consider how this procedure could be improved, by exploring how investigators, internationally, use handwriting as an individualisation technique as evidence in fraud investigation.

To accomplish this, the researcher read extensively in an attempt to explore the field and find new information which could be used to address the problem under investigation. The researcher wants to apply the new knowledge of international practice to develop good practice in South Africa. She intends to do this by recommending new procedures to enhance performance and improve the conviction rate in court cases. The researcher wants to empower investigators with new information by making it available to them. The researcher intends to give lectures, write a journal article, and make the information available for training sections within the SAPS and SARS.

1.6 RESEARCH QUESTIONS

Research questions should specify exactly what is to be investigated. These are not the broad goals of the research that are directly investigated by the research, but specific things that are to be observed, measured and interrogated, in order to shed light on the broader topic (Denscombe, 2002:31).

The research questions of this research are as follows:

- 1.6.1 What is investigation?
- 1.6.2 How can handwriting on a document assist to individualise a perpetrator?

1.7 KEY CONCEPTS

Keywords are ‘identifiers’ – words that capture the essence of what the report is all about (Denscombe, 2002:324). The key concepts of this study are defined as follows:

- 1.7.1 Fraud: Fraud is a criminal deception intended to result in financial or personal gain (Wells, 2004:2). It is an intentional distortion of the facts to mislead a victim into believing that something is true, when, in fact it, is untrue (Lambrechts & Theart, 1996:33).
- 1.7.2 Criminal investigation: a systematic search for the truth. It consists of observation and/or enquiries, with the purpose of gathering information on an alleged crime or incident (Marais, 1992:34).
- 1.7.3 Handwriting specimens: exemplars needed before individualisation of handwriting can take place (South African Police Service, 2000:2).
- 1.7.4 Investigation: the examination, searching, tracking and gathering of factual information that answers questions or solves problems (Sennewald & Tsukayama, 2001:2).
- 1.7.5 Identification: “the collective aspect of the set of characteristics by which a thing is definitively recognisable or known” (Ogle, 2004:6).
- 1.7.6 Perpetrator: the person who has committed a criminal act (Hawkins, 1994:2).

1.7.7 Individualisation: Individualisation means to distinguish somebody from others (Horswell, 2004:6). This implies that things are unique and can therefore be distinguished from all others (Doyle, 2003:2; Fisher, 2004:5).

1.8 RESEARCH APPROACH AND DESIGN

A research design is, in essence, a clear statement of the research problem, as well as plans for gathering, processing and interpreting the observations intended to provide some answers to the problem (Singleton & Straits, 1999:91). The researcher adopted an empirical design, as this design would best answer the research questions. An empirical design is the production of knowledge based on experience or observation (Maxfield & Babbie, 2005:4). The researcher needed to do fieldwork to focus on the personal and practical experience of the participants, as only a limited amount of literature could be found on this topic (Mouton, 2001:149). According to Mouton (2001:150), the empirical design produces high construct validity and in-depth insight, and assists in establishing a rapport with the research participants. To achieve this, the researcher had to interview and interact only with experienced investigators (Mouton, 2001:150). Mouton further states that the design also has limitations, as the results cannot be generalised because they represent the views of individuals, measurements cannot be standardised, and the collection of – and conditions for – collection and analysis of data may be time consuming. The researcher attempted to reduce these limitations by combining interviews with literature and case docket analysis.

The researcher made use of a qualitative approach. The researcher decided on this approach, as “qualitative researchers study things in their natural settings” (Creswell, 1998:15). A secondly reason for this choice was that the researcher needed to interview and listen to the participants, in order to obtain new information to build an understanding of their natural settings (Creswell, 1998:15). A further reason for the researcher’s choice was that the study was of an investigative nature, and the researcher needed to interview and listen to the participants, in order to obtain new information to build an

understanding of their ideas and personal experience (Creswell, 1994:21; Taylor, 1994:208).

The research approach was qualitative in nature (Leedy, 1997:106). The main reason for conducting a qualitative research was because it is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that "qualitative researchers study things in their natural settings" (Creswell, 1998:15; Pope, Lovell & Brandl, 2001:369). The researcher decided on a qualitative approach, because she wished to obtain practical answers to the problem.

1.9 TARGET POPULATION AND SAMPLING

The researcher needed to select the element of the study. An element is that unit about which information is collected, and which provides the basis of the analysis. 'Elements' are people or certain types of people (Maxfield & Babbie, 1995:186). 'Population' is the theoretically specified aggregation of study elements (Babbie, 2007:190). According to Taylor (1994:158), 'population' includes all individuals or cases of a certain type. The ideal population for the research should have been all investigators of SAPS and SARS in all crime investigation disciplines in general. The size of the population, the cost in time and money necessary to observe all the elements, and the difficulty of being able to observe all the subjects, made the study of the total population prohibitive. Moreover, measuring the population could destroy or change the units, or affect the subsequent state (Seaman, 1987:364). The population for the study is that group of people about whom the researcher wishes to draw conclusions. It is impossible to study all members of the population. In virtually every case, the researcher must sample subjects for study (Babbie, 1995:103).

For this reason the researcher decided to make use of a study population. Maxfield and Babbie (1995:186) state that a study population is that aggregation of elements from which the sample is actually selected. The study population for this research consisted of fraud investigators in the SAPS

Commercial Unit, Johannesburg, and investigators in the South African Revenue Service (SARS), Johannesburg, Gauteng. The researcher decided on Gauteng, because it is the area in which she is working and residing, and where the problem was identified. Within these sectors, the researcher obtained a name list, from the commanders of both units (SAPS and SARS), of investigators with more than five years' experience in fraud investigation. The reason for selecting those with five years' and more investigation experience was because the researcher was looking for highly experienced individuals to answer the research questions. The researcher obtained a list from each of the investigative authorities, which amounted to 54 names from both departments (SAPS and SARS).

These investigators were the most frequently exposed to hand specimens, with fraud investigation being part of their mandate. The researcher contacted each investigator telephonically, being aware that not everyone would be available to be interviewed, and that not everyone would agree to participate, for personal reasons.

All the investigators from SAPS, on the list, were involved in investigation. Investigations at the Commercial Crime Unit, Johannesburg, are divided between three groups: General Group, Statutory Group and Counterfeit Group. The section working with fraud cases where handwriting is involved falls under the Statutory Group, which was then selected because of the title of this research. There were twenty-two investigators in this section. Fifteen of these had more than 5 years' experience, and no further selection was done on this group. All fifteen were taken as a sample, from the SAPS, and are referred to as Sample A.

The target population from SARS was thirty-two investigators. From these, a name list consisting of twenty-one investigators, with more than five years' experience, was provided. This name list was numbered from 1 to 21. The researcher used the simple random sampling technique in selecting the sample. The researcher wrote the names of each of the investigators on separate pieces of paper and put the names in a bowl. The researcher then

drew fifteen names from the bowl to form the sample – referred to as Sample B.

According to Blaikie (2003:161), the ideal sample is one that provides a perfect representation of a population, with all the relevant features of the population included in the sample in the same proportions. Leedy and Ormrod (2001:211) are of the opinion that "random selection means choosing a sample in such a way that each member of the population has an equal chance of being selected: when such a random sample is selected, the researcher can assume that the characteristics of the sample approximate the characteristics of the total population". Simple random sampling involves a selection process that gives every possible sample of a particular size the same chance of selection. Each element of a population must be able to be identified and numbered. The selected numbers then determine which population elements are to be included in the sample (Blaikie, 2003:168).

The researcher does not claim that her samples were representative of the target populations, because of the fact that some members were excluded based on their years of experience as fraud investigators. Only those with more than five years' experience were selected to be part of the sample.

To respect this request, the researcher allocated a number to each participant, and referred to the person as Participant 1, Participant 2, and so on, instead of using a name.

1.10 PURPOSIVE SAMPLING

Leedy and Ormrod (2005:206) are of the opinion that in purposive sampling, people or other units are chosen as the name implies, for a particular purpose. For instance the researcher might choose people who he or she has decided are "typical" of a group or those who represent diverse perspectives on an issue. Purposive sampling may be very appropriate for certain research problems. However, the researcher should always provide a rationale

explaining why she or he has selected the particular sample of participants (Leedy & Ormrod, 2005:206).

The basic assumption behind purposive sampling is that with good judgment and an appropriate strategy, one can handpick the cases to be included, and thus develop samples that are satisfactory in relation to one's needs. A common strategy of purposive sampling is to pick cases that are judged to be typical of the population in which one are interested, assuming that errors of judgment in the selection will tend to counterbalance one another (Hoyle, Harris & Judd, 2002:187).

The researcher consulted the Questioned Document Unit Analyst from the SAPS Forensic Science Laboratory in Pretoria on literature relevant to the field of study. The Question Document Analyst has more than 15 years' experience in the handwriting individualisation process. This sample will be called participant 31.

1.11 DATA COLLECTION

Data consists of facts which are records of the actual state of some aspects of the universe at a particular point in time (Bouma & Atkinson, 1995:22). Bauer and Gaskett (2000:355) explain data as facts or evidence that are at the disposal of the proponent of an argument. According to Mouton (2001:57) and Patton (1980:43), qualitative research involves the following data collection techniques: surveys, experiments, case studies, programme evaluation and ethnographic studies. The researcher collected multiple sources of information which Leedy and Ormrod (2005:99) refer to as "triangulation". The authors explain that triangulation of information sources is carried out in the hope that the sources will all converge in qualitative research. For instance, a researcher might engage in many informal observations in the field, and conduct in-depth interviews, and then look for common themes that appear in the data gleaned from both methods.

Triangulation can be used in qualitative research to enhance the quality of the research. Triangulation, according to Patton (1980:43), is a powerful technique that facilitates validation of data through cross-verification from more than two sources. It also refers to the application and combination of several research methodologies. By combining multiple observations, theories, methods and empirical materials, researchers can overcome the weaknesses, intrinsic biases, and problems, that come from single method, single-observer and single-theory studies. In this research, the researcher made use of three data collection techniques – namely, literature, interviews and case docket analysis, to obtain more truthful data and avoid biases.

In this research, the type of data used is primary data - for example, from the Internet. Primary data is characterised by the fact that it is the result of direct contact between the researcher and the source, and has been generated by the application of particular methods by the researcher (Blaikie, 2003:18). Primary data is often the most valid, the most illuminating and the most truth-manifesting (Leedy & Ormrod, 2001:95).

The researcher decided on these collection techniques, as they were practical and would ensure that the researcher could distinguish clearly between what literature states and what is taking place in practice. The researcher considered these collection techniques to be the best under the circumstances, as the literature could be tested against the interviews and the case dockets.

1.11.1 Literature

Before attempting any form of data collection, it is important to consult literature as a means of preparation for the data collection. In this regard, Cooper (1998:15) asserts that a literature review assists in gaining a clearer understanding of the type and meaning of the research problem identified. The researcher obtained information relating to her topic from books, websites, magazines and journals.

Information in the field of policing, law and criminology was collected from books, fraud conference proceedings, training material, journals, magazines and the Internet, which related to the researcher's topic. In selecting data from the different literature the researcher used the interview schedule as guide, which was based on the research questions, to ensure that all literature were evaluated in the same way for data.

The researcher visited various websites to find literature on the topic. The researcher did not find literature on the specific topic under research, and was obliged to look for literature on similar concepts, and topics that addressed similar kinds of issues. In the absence of literature on the same topic, the researcher checked the Unisa library catalogue, the Internet and also journals, to obtain relevant information published on aspects of the topic. In the absence of literature with the same topic, the researcher broke up the topic, aim and research questions into the following concepts, in an attempt to find relevant literature:

- forensic investigation
- fraud
- individualisation
- evidence
- identification
- crime scene

Literature was perused for information on these concepts, and some valuable information relevant to the topic was gathered to address the research questions.

1.11.2 Interviews

Interviews were conducted face to face between the interviewer and the interviewees. The researcher decided to conduct structured interviews. A structured interview involves tight control over the format of the questions and answers. In essence, the structured interview is like a questionnaire which is administrated face to face with a participant (Denscombe, 2002:175). It has

the advantage of being in a social situation, where someone who is good at interviewing can build up greater empathy between themselves and the interviewee, leading to a greater involvement and better qualifying data. Data obtained is then more easily compared, with less risk of bias occurring simply because different people are being asked rather different questions (Robson, 2000:90).

An interview schedule based on the research questions and the aim of the research was compiled after which appointments were scheduled with the participants. Only one interview schedule was used when interviewing the two samples.

The researcher conducted a productive interview with each interviewee, according to the following guidelines (Leedy & Ormrod, 2005:147):

- The purpose of the interview, as well as the focus point, was communicated prior to the interview.
- The interviewees were investigators with five years' experience in fraud.
- The interviews were conducted in a quiet, peaceful and private location, at their offices.
- The participants were asked to sign a consent form.
- All the requirements in terms of interview procedures (keeping eye contact, body language, smile, mutual participation), were maintained during the interview.
- The focal point was research and investigation – which was properly communicated to the interviewee in enabling both interviewer and interviewee to keep focus.
- The interviewer was very cautious in not completing sentences for the interviewee, and was listening attentively at all times.
- The interviews were recorded by writing down the responses word for word from each interview, and throughout the interview a record was kept of the discussion in question.

- The interviewer established and maintained rapport with the interviewees by asking the questions and repeating the answers, to hold their attention and clarify uncertainties.
- The interviewer did not necessarily obtain facts during each interview. Some interviews provided extensive facts, and some confirmed previously obtained facts, while others were not productive.

The researcher did not conduct a pilot study among investigators, but instead, the interview schedule was sent to, and discussed with, the researcher's supervisor and co-supervisor, to identify possible shortcomings and indistinctions.

1.11.3 Case docket analysis

The case studies approach "allows an investigation to retain the holistic and meaningful characteristics of real-life events" (Mason, 1998:129). The researcher collected all closed investigation files from the Commercial Branch, Johannesburg, from the 1 January 2004 to 31 January 2008. The case study covers only handwriting/signature fraud. There were a total of 68 case dockets. The researcher wrote the CAS numbers of the 68 case dockets on pieces of paper, and threw them into a hat. Thereafter, the hat was shaken, and a total of 40 CAS numbers were randomly removed from the hat. The case number appearing on each paper was used to select the dockets for analysis. This method is referred to by Welman and Kruger (2001:52) as simple random sampling, as each unit of the population has the same chance of being selected in the sample. Mouton (2001:101) deliberates on the possibility of a biased sample, owing to a very heterogeneous population, the use of non-probability sampling techniques, and too-small sample sizes. In order to address the latter problem, the researcher preferred simple random sampling when the samples were too small. In contrast, the researcher ensured that factors that may have intervened to affect the representativeness of the sample adversely or favourably, were minimised (Champion, 2000:171).

The cases of SARS were not analysed because the cases are registered and filed with the SAPS. Permission was obtained from the commander of the Johannesburg Commercial Crime Unit to analyse the cases. Analysis of the cases enabled the researcher to obtain first-hand knowledge of how, in the past, information on handwriting and/or signature fraud was used to identify and individualise perpetrators, and see how that compared with the information received during the interviews (Merriam, 2002:5).

The cases were analysed to obtain answers relating to the research questions. The information that was extracted covered the following points:

- Was handwriting examined to individualise the suspect?
- How was information on handwriting and/or a signature used to identify and individualise the perpetrator?
- Cases were analysed to obtain clarity on the chain of evidence.

1.12 METHOD OF DATA ANALYSIS

The researcher chose an appropriate procedure to analyse the data obtained, as submitted by Welman and Kruger (2001:201), Creswell (1998:114) and Leedy and Ormrod (2001:161) – a meticulous data analysis method which is relevant in qualitative studies. This method is called the data analysis spiral. This means that various steps are followed several times until the final product is achieved. In accordance with this method, the following steps were followed until a final product was achieved:

- Organisation of details about the data: Here the researcher arranged the facts in chronological order, and categories were identified, after which the data was classified into smaller groups.
- Perusal of data: The researcher endeavoured to obtain an overall sense of data, and preliminary interpretations were jotted down.
- The classification stage: The data was grouped into categories or themes, and the meaning in the data was established.

- Synthesis and generalisations: Here the overall portrait of the case was constructed. Conclusions were drawn at this stage.

Since the research was qualitative, these steps were followed in the analysis of all information, irrespective of whether it was collected through interviews, the literature search or case analysis. The advantage of this method was that the researcher could follow concise steps in analysing data, thereby avoiding possible gaps in the interpretation of data. Another advantage was that data could be analysed during the data collection process – which saved much time ordinarily consumed during this stage of the research (Leedy & Ormrod, 2001:160-161; De Vos, 2001:204).

1.12.1 The backgrounds of the participants

From the interviews, the following information was gathered from the SAPS members – Sample A:

- All the participants were criminal investigators with more than 5 years' experience in fraud investigations.
- Eleven of the investigators had more than fourteen years' experience, mostly in fraud cases, and underwent the Commercial Crime Course Level 1 and Level 2.
- Three had ten years' service, of which five years were spent as uniformed police officers.
- All of them underwent the 'Detective Course'.
- Six of them had a National Diploma (Police Administration).
- Six of them had a Bachelor of Technology degree (Policing).
- Three had no academic qualifications.
- Ten investigators had received training in handwriting as an individualisation technique.

The backgrounds of the SARS members, Sample B, were as follows:

- Ten participants were investigators with more than five years' experience in fraud investigations.

- Ten investigators were previously police officers who had undergone “Detectives Course”.
- Five investigators had undergone Commercial Crime Course Level 1 and Level 2.
- Five of the investigators came from an auditing background, had completed criminal investigation courses, and had been investigating tax fraud cases for the past six years.
- All of the investigators from SARS were dealing with the investigation of tax-related fraud cases.
- Five investigators had a Bachelor of Commerce Accounting Degree.
- The investigators from SARS had never received any training in handwriting as an individualisation technique.

1.13 METHODS TO ENSURE VALIDITY

Certain aspects were taken into consideration in this research, to ensure that the results would be valid. In this research, the views of Welman and Kruger (2001:138) were observed, in that the instruments used to measure the variable, measured that which they were supposed to measure. Denscombe (2002:100) views validity as the accuracy of the questions asked, the data collected and the explanation offered.

The researcher paid strict attention to validity – which means the extent to which the instruments adequately reflect the concept or object that is being studied. An example is that of the use of case analysis as a means of collecting data. It is true that in order to evaluate a certain process, one needs to look at what has been done previously. In general terms, the researcher resorted to previously used and tested methods of data. The researcher did not anticipate a situation where the participants are seen not to be relevant to the phenomenon under investigation. The participants in this study were investigators with more than five years' experience in fraud investigation. The research was strict on the qualitative nature, and all participants were met

with personally during interviews, while the case dockets were physically perused for relevant data. Internal validity was also observed – which means that necessary precautions were taken to ensure that any other possible explanations were eliminated. Internal validity refers to the extent to which the research designs and data yielded allow the researcher to draw accurate conclusions about cause and effect, and other relationships, within the data (Leedy & Ormrod, 2005:97).

As a further insulation against invalidity, the researcher also used triangulation, as described in Leedy and Ormrod (2001:105). Multiple sources of data were collected in the hope that they would all converge to support a particular theory. The researcher searched the literature, and conducted interviews and docket analysis, after which the common themes that appeared in the data gleaned from the three methods, were examined.

According to Maxfield and Babbie (2005:83), one of the factors that threaten the validity of results is the basing of conclusions on a small number of cases. In this research, a reasonable sample of case dockets and participants was drawn. In addition to that, two categories of subjects were used in this research. These were the investigators and the case dockets. This assisted greatly in the validity of the conclusions, as data collected from all these sources was integrated and collated against one another.

According to Denscombe (2002:100), “validity generally relates to the data and the analysis used in the research”. The researcher ensured that the research was valid, by comparing and verifying it against the interviews, literature and case analysis.

1.14 METHODS TAKEN TO ENSURE REALIABILITY

To ensure reliability, a researcher should make certain that if the same methods were used at different times by different people, they should still produce the same results (Mouton & Marais, 1990:79). During the sampling, the researcher confirmed with the participants that they had five years' or

more experience in the field of fraud investigation. Later, during the interviews, the researcher again asked them, specifically, how many years' investigation experience they had. During the analysis process, the researcher met the participants in an interview room that was kept private, quiet and free from mental distractions, so as to promote honest communication. The researcher asked the participants to indicate how they had interpreted the formulated questions. At the same time, the researcher watched and noticed non-verbal behaviour on the part of the participants that might have signified discomfort or embarrassment regarding the content or wording of the questions (Welman & Kruger, 2001:141).

According to Creswell (1994:159), reliability refers to the extent to which the researcher's conclusions can be replicated. During the examination of specific cases, the researcher checked whether the same patterns or events were replicated in different settings. The researcher made use of a selection of participants, who were interviewed in the Gauteng region. The participants were from the Commercial Crime Unit of SAPS and from SARS, although they did not have the same training and experience in the field. This was done so that, should similar research be done in another region, the conclusions could be replicated (Creswell, 1994:159).

The researcher collected multiple sources of information, which Leedy and Ormrod (2005:99) refer to as 'triangulation'. The authors explain that triangulation of information sources is carried out in the hope that the sources will all converge to support a particular hypothesis or theory. This approach is especially common in qualitative research; for instance, a researcher might engage in many informal observations in the field, and conduct in-depth interviews. By using triangulation, the researcher received a balanced input on a specific point under discussion.

1.15 ETHICAL CONSIDERATIONS

There was adherence to the Unisa code of ethics for research (Unisa, 2000:128-134). In a further endeavour to observe the ethics, the discussions

of Leedy and Ormrod (2005:101) were studied and observed. These principles are not totally different from what is contained in the Unisa code of ethics:

- Protection of harm: the participants were not exposed to physical or psychological harm. Interviews were conducted in an office, and at no stage were their lives exposed to any risk other than the normal day-to-day risks. Their names were not used in the interviews, with the result that they cannot be identified.
- Informed consent: participation in the study was completely voluntary, and participants were given a chance to give informed consent by signing the schedule as proof that they consented to be interviewed. Their right to privacy was observed and respected. The necessary permission was obtained from the SAPS' national head office and SARS' head office in Pretoria.
- Right to privacy: confidentiality was guaranteed to the participants. Their responses were not shown to anyone or discussed with anyone except the supervisor of this research. The participants chose to participate in this research anonymously, and numbers were used instead of names, both during the interview and the reporting.
- Honesty with professional colleagues: there was honesty with the professional colleagues. The researcher ensured that there would be no misrepresentation of facts, to deliberately mislead others with the findings. These principles were only ticked off when achieved or observed, and, in general, non-compliance could not be detected.

In an endeavour to succeed in observing these ethics, the researcher developed an off-record checklist from the principles contained in the code of ethics, and ticked them off throughout the research. These principles were only ticked off when achieved or observed, and, in general, non-compliance could not be detected.

The researcher ensured transparency at all times and did not violate the rules of Unisa by committing scientific fraud or plagiarism (Mouton, 2001:240).

1.16 RESEARCH STRUCTURE

The rest of this research report is divided into further chapters which will deal with other aspects of this research:

Chapter 2: Investigation

To obtain a better understanding of the key theoretical concepts used in the study, the researcher uses this chapter to discuss the meaning of the term 'investigation', along with the objectives of investigation. Further, in this chapter the researcher discusses the meaning and categories of identification. The researcher also discusses fraud, with its elements. The chapter then explores in more detail what evidence is, and the chain of custody.

Chapter 3: Handwriting as an individualisation technique in fraud Investigation

In this chapter, the researcher further explains handwriting/signature(s) on a document, as a crime scene, informs who has the right to investigate, and describes how a handwriting specimen will be obtained for analysis. The protection, packaging and marking of a disputed document, is also covered. The researcher examines the role that individualisation plays, as well as the individualisation process for handwriting to identify the perpetrator.

Chapter 4: Findings and recommendations

In the final chapter, a summary of each chapter is presented, and the findings of the study are outlined and discussed. Recommendations are then made on the basis of these findings.

CHAPTER TWO

INVESTIGATION

2.1 INTRODUCTION

Crime investigation involves the lawful tracing of people and exhibits which may, directly or indirectly, contribute to the reconstruction of a crime situation, and supply information about the *modus operandi* (MO) and the persons involved in the crime, for the purpose of bringing a criminal to justice (Dowling, 1997:1). In essence, it involves observation and inquiry in order to obtain factual information about allegations, circumstances and associations (Marais & Van Rooyen, 1994:13). In the process, an attempt is made to (a) establish exactly what happened when the crime, for example fraud, was committed, in order to uncover the truth surrounding the events; (b) prepare and present a *prima facie* case in a court of law; and (c) submit the evidence required to reveal the unlawful action of the accused (Marais, 1992:1).

This chapter presents a brief explanation of criminal investigation and the objectives of investigation. Further, in this chapter the researcher discusses the meaning of identification. The chapter then explores in more detail the role of identification and the different categories of identification. This chapter further deal with methods and techniques used to identify persons, which will enable the investigator to identify suspects. Investigators have a significant role to fulfil in the endeavour, as they are responsible for obtaining the information and evidence for a successful prosecution.

2.2. CRIMINAL INVESTIGATION

According to Greene (2007:356), criminal investigation is the reconstruction of a past event through which police personnel solve crimes. The author further states that detectives or other investigative personnel take numerous factors into consideration when reconstructing a case, in order to determine who committed the crime and under what circumstances the crime was committed

(Greene, 2007:356). Berg and Horgan (1998:06) and Bennett and Harris (2007:06) state that criminal investigation is the process of discovering, collecting, preparing, identifying and presenting evidence, to determine what happened and who is responsible. Du Preez (1996:04) states that criminal investigation takes place with definite objectives in mind, which describes, more precisely, a commitment which must be achieved within an appointed time and according to a specified standard.

The participants were asked to define criminal investigation.

Sample A responded as follows:

- Twelve participants said that criminal investigation is the process of identifying who the suspect is, arresting the suspect, preparing a case docket and presenting it to court.
- Three participants said it is to gather evidence, arrest the person and bring him/her before court.

Sample B responded as follows:

- Fifteen participants said it is to gather evidence, identify the perpetrator and present the case to the court, and investigation of all crimes.

In their responses to the above question, the participants answered that they were of the opinion that criminal investigation concerns the gathering of information and evidence, identifying the perpetrator and bringing him/her before a court of law. The responses of the participants agreed with the literature, and it was clear that the participants knew what criminal investigation is.

The researcher established that criminal investigation can be defined as the discovery of relevant facts, the making of inference from the facts, the reconstruction of the crime scene, the identification and apprehension of the offender, and the preparation of the case for prosecution and trial of the suspect(s) (Du Preez, 1996:3-4).

2.3 OBJECTIVES OF INVESTIGATION

Swanson, Chamelin and Territo (2003:28) state that the objective of investigation is to establish that a crime had actually been committed, to identify and apprehend the suspect(s), to recover property, and to assist in the prosecution of the person(s) charged with the crime. Swanson et al. (2003:28) agrees with Dowling (1997:1) and adds that it is a systematic, planned process, consisting of the abovementioned components, as well as the gathering and safekeeping of evidence, and evaluation. Du Preez (1996:4) states that the objectives of investigation are identification of crime, gathering of evidence, individualisation of crime, arrest of the suspect, recovery of property and involvement in the prosecution.

According to Van Heerden (1985:10), Du Preez (1996:4-7) and Dowling (1997:4) the objectives of investigation are –

- identification of crime
- gathering of evidence about an alleged crime or incident
- individualisation of the crime
- arresting the criminal
- recovery of property
- involvement in the prosecution process

Both sets of samples were asked what the objectives of investigation are.

Sample A responded as follows:

- Five participants said it is to identify illegal activities of suspects.
- Four participants said it is to gather information and evidence to trace the suspect.
- Three participants said it is to identify illegal activities and the suspect, and obtain documentary proof to prove a connection with others involved.
- Three participants said it is to identify the suspects.

Sample B responded as follows:

- Six participants said it is to collect evidence to trace the suspect.

- Nine participants said it is the proving of a criminal offence using forensic methodology such as handwriting analysis.

The participants were not fully aware of what the objectives are, because they did not mention all, as were mentioned in the literature.

The meaning of each objective is discussed as follows:

2.3.1 Identification of the crime

The crime – for example, fraud – must be identified and recognised, not only in terms of the judicial requirements for the furnishing of proof, but also by preliminary observations made at the crime scene (Marais & Van Rooyen, 1994:19). Evidence identified at a crime scene, during interviews with complainants, victims and witnesses, can identify the nature of the events. Evidence collected in this way can then be considered to determine the unlawful nature of the event, identifying it as a criminal offence (Dowling, 1997:1; Horswell, 2004:7).

The investigator should be able to recognise and identify all relevant information that can shed light on the crime committed, before it has been gathered (Byrd, 2004:1). Identification also requires that the investigator is conscious of the possible value of each potential source of information, and has an extensive knowledge of the evidential requirements of the different types of crime (Du Preez, 1996:3).

The main challenge for investigators is to become acquainted with the environment in which the various types of crimes are committed, as that very often determines the MO of the offences committed. They also need to know and understand the law prohibiting the particular offence committed, in order to prevent wasting time on unrelated matters (Marais, 1992:2-3). It is of the utmost importance for the investigator to first determine whether an offence has in fact been committed and, if so, what offence (Dowling, 1997:2; Horswell, 2004:9). Accordingly, the correct identification of the crime situation is of fundamental importance, because mistaken identification can give rise to

the investigation being lost, and any hypothesis that the investigator has, remaining unconfirmed (Marais, 1992:2-3).

The identification of the crime is determined by the elements of the crime. In the identification of fraud, the elements are misrepresentation, unlawfulness, prejudice and intention. Adams, Caddell and Krutsinger (2004:10) state that only once investigators have determined that there has been no foul play, can they discard the fact that no crime has been committed. The investigation will be based on the examination of the crime scene, to obtain evidence or information. Thereafter, investigators will be able to identify who the possible witnesses are, the elements of a crime, and aspects that can identify who committed the crime.

2.3.2 Collection of evidence

Evidence to be collected should support and prove the document/cheque fraud. Gathering of evidence begins at the crime scene, because the crime scene contains visible and hidden information (Byrd, 2004:1). Great care should be taken to collect all evidence (Ogle, 2004:20; Fisher, 2004:55; Adams et al., 2004:71). Each piece of evidence should be identified, collected and preserved as a separate entity (Van Niekerk, 2000:7; Fisher, 2004:53).

Evidence falls into two categories: testimonial evidence and physical evidence (Fisher, 2004:1; Ogle, 2004:1). Testimonial evidence is any witnessed account of an incident. Physical evidence refers to any material items that are present at the crime scene (Byrd, 2004:1; James & Nordby, 2003:521). The investigation process revolves totally around the collection of information, whether subjective or objective, by means of which the whole truth may be determined (Du Preez, 1996:2; Lee & Harris, 2000:13).

According to Byrd (2004:1), the reason for collecting evidence at a crime scene is to –

- prove that a crime has been committed.
- establish any key elements of a crime.

- link a suspect to a crime scene.
- establish the identify of a victim or suspect.
- corroborate verbal witness testimony.
- exonerate the innocent.

All physical evidence at the crime scene should be collected carefully, and kept in such a way that its identity and legal integrity is protected (Genge, 2002:8; Fisher, 2004:53). Maintenance of continuity and record-keeping of possession is of vital importance in the evidential process. This simply means the continuous safekeeping and identification of physical evidence (Du Preez, 1996:3; Gardner, 2005:56).

Investigators are responsible for collecting evidence after a crime has been committed (Genge, 2002:18). Despite the fact that investigators can avail themselves of the expertise of various experts, if they are unable to detect clues, interpret them correctly, place their relative association on record, submit them to the appropriate expert, and handle them in such a manner so as to maximise the examination results, a situation can arise where months of hard work is doomed to failure (Marais, 1992:7; Adams et al., 2004:1).

Evidence is defined by Van Heerden (1986:191) as any lawful means, except legal argument, whereby the truth of any case or fact is proved or disproved during a judicial investigation. According to Du Preez (1996:3), evidence is eventually offered at the trial, and is, in fact, the end product of a process of discovering, tracing, eventuating and selecting the relevant information. Schmidt and Rademeyer (2000:3) define the term 'evidence' as follows: "It encompasses in its normal meaning all the information presented to a court in order to enable it to settle a factual dispute so that it includes the written and oral statements by witnesses as well as objects submitted for inspection."

2.3.3 Individualisation of the crime

Dowling (1997:2) claims that a primary task of the investigator is to identify who has committed the crime. Lee and Harris (2000:14) agree with Dowling.

The emphasis here falls on the perpetrator's involvement in the crime, the probability, based on facts and information collected, that a particular individual could have committed the crime, and that the facts collected are sufficient to justify the arrest of the individual (Marais & Van Rooyen, 1994:20; Du Preez, 1996:7). A perpetrator's signature, sometimes referred to as their calling card, is left at each crime scene (James & Nordby, 2003:523; Fisher 2004:6). Once all relevant evidence has been collected and the perpetrator positively individualised, the investigator can proceed with the arrest of the criminal (Van Niekerk, 2000:4).

It is also the responsibility of the investigator to ensure that the criminal or alleged criminal will be present at his/her trial, and to submit the evidence required to reveal his/her unlawful action to the court (Du Preez, 1996:1; Gardner, 2005:2). The investigator needs to be sure that the right person is arrested for the crime (Swanson et al., 2003:28). However, proving guilt conclusively also implies that the perpetrator will be brought to justice to account for his/her criminal action. This means that the factual and legal guilt of the accused must be determined. This requires that the gathering of information and facts should be conducted in a lawful way so that the evidence presented will indeed be admissible in a court of law as evidence (Lambrechts, 2002:83). The evidence presented should also be of such a nature that the unlawful act of the accused is demonstrated beyond any reasonable doubt (Du Preez, 1996:2).

The investigator must identify the person who wrote the specimens, in order to link a specific person to disputed handwriting. The handwriting expert can requested specimens from the suspect, after which individualisation of the handwriting takes place and the identification the author of the document.

2.3.4 Arrest of the perpetrator

The purpose of arrest is to ensure the presence of the accused at the trial (Marais & Van Rooyen, 1994:20; Du Preez, 1996:7; South Africa, section 38, 1977; Kriegler & Kruger, 2002:90). An accused can also be summonsed or, by means of a written warning, brought before the court (South Africa, section

38, 1977). A primary task of the investigator is to identify who has committed the crime and if there is enough evidence against the suspect (Lee & Harris, 2000:14). Unless this step is completed, the investigator's overall job is largely spoiled (Dowling, 1997:2). Adams et al. (2004:59) state that the investigator does not begin to search or process the scene when a suspect may still be present. In some incidents, if there is no evidence against the suspect, the investigator cannot arrest them.

2.3.5 Recovery of stolen property

The investigator should always attempt to recover stolen property (Dowling, 1997:4). Du Preez (1996:7) argues that the aim of recovering, for instance, stolen property, in an investigation, is not only the minimisation of the victim's loss, but also to utilise the recovered property as evidence against a suspect during the trial (Marais & Van Rooyen, 1994:21). The recovery of property could also serve as proof that the suspect has committed the crime, and also serve as exhibits. Section 300 of the Criminal Procedure Act 51 of 1977 can be utilised if there were losses with regard to theft or fraud. To recover losses, the investigator should remind the prosecutor of section 300, and ask them to put the request to the court, in order for the accused to repay a specific amount as agreed in court.

2.3.6 Involvement in the prosecution process

This objective is to assist the public prosecutor in the prosecution process, to present the evidence and to reconstruct the crime in court (Palm, 2000:35). In most instances the investigator will be asked to testify in court (Gardner, 2005:1). The successful prosecution of criminals depends to a great extent upon the skill and efficiency of the investigator who has conducted the investigation (Du Preez, 1996:7; Adams et al., 2004:49). The investigator's involvement in the prosecution process also entails the duty to ensure that everyone (witnesses) and everything (material evidence) is present at the court on the trial date (Du Preez, 1996:7). The relationship between the prosecutor and the investigator should be one of efficient and close co-operation, with mutual respect for the distinct functions and operational independence of each profession (Bekker, Geldenhuys, Joubert, Swanepoel,

Terblanche, Van der Merwe & Van Rooyen, 2003:60). In order to ensure successful prosecution and conviction, it is important that the investigator has gained and documented enough evidence to link the accused to the crime (Bester, 2002:29).

2.4 MEANING OF IDENTIFICATION

Investigation starts with the examination of the crime scene to obtain information or evidence. The investigator goes to a crime scene to identify who the suspect is, who possible witnesses are, and to trace elements of the crime and also aspects that can identify who committed the crime. According to Erzinclioglu (2004:83), the first attempt to identify people on a rational, scientific basis was developed during the 19th century by the French forensic scientist Alphonse Bertillon. Horswell (2004:6) submits that the process of identification of any object is one of establishing the fact that it belongs to a large group or class, and further, that the determination of identifying an item depends on establishing that it is only one of its kind within its class.

This explanation is further simplified by Fisher (2004:7) and Gardner (2005:23), who commonly submit that 'identification' means items with the same properties which share a common source and can be classified or placed into groups. Identification therefore means that if handwriting and/or a signature has been identified in a cheque fraud, it is not individualised to any particular person, but is analysed and tracked back to a specific group or class of material (Gardner, 2005:23). In identification, it does not matter how much testing is done on that piece of material, the conclusion will always be the same: the results cannot be attributed to one unique source, but rather to a group of people or a class with similar characteristics (Fisher, 2004:9).

Both sets of participants were asked what they understood by identification. Sample A responded as follows:

- Ten participants described it as an ability to single out a particular thing out of a larger pool through the comparison of characteristics.

- One participant defined identification as being able to put a particular thing to a class of those with the same characteristics.
- Four participants viewed identification as the ability to track the class of origin of a particular material.

Sample B responded as follows:

- Four participants viewed identification as the ability to track the class of origin of a particular material.
- Five participants stated that identification is to establish what the attributes of an object are, in order to place it in a certain category.
- Six participants said it is to identify a person or the crime.

The viewpoints showed that the samples were familiar with the concept of identification as spelled out in the literature. During comparison with the other sources of data, it became clear that the responses were not different from Gardner (2005:24), who also views identification as placing an object with others having the same characteristics. Not only that, but the characteristics mean the intentional or design features that would be common to a particular group or family of items. The ten participants of Sample A are of concern, because it sounds as if the participants were confusing identification with individualisation. This should not be of serious concern, as, in reality, the two are close to each other. This argument cannot be pre-empted here, because individualisation will be discussed later, and a comparison between the two concepts will also be done. The moment they spoke about 'singling out' from the pool, a doubt was created in terms of their understanding. This response is in conflict with the presumption that everything is unique and distinctive, in that it has certain individual and class characteristics (Marais, 1992:19). The researcher sides with the literature, because the primary objective of any investigation is to locate evidence which can be individualised later (Fisher, 2004:93).

The viewpoint of the researcher is that ten participants of Sample A were confusing identification with individualisation. The other twenty participants

partially knew what identification is, and are familiar with the concept of identification and most of the techniques thereof.

These responses are relevant to the question regarding what identification is, in an investigation of a fraud case. The examination of the disputed sample is undertaken with the view of answering the two questions, as argued by Newburn, Williamson and Wright (2007:205), firstly: What is the relationship between the trace and the incident under investigation? and, secondly: What is the origin of that trace? The answers to these questions can summarise the significance of fraudulent exhibits in investigation of fraud cases.

The conclusion is echoed by Newburn et al. (2007:308), who submit that the biggest question that the forensic analysis of material evidence attempts to answer is: What is the origin of the material under investigation?

2.5. CATEGORIES OF IDENTIFICATION

The positive identification of the suspect involved in a crime is of vital importance (Marais, 1992:18). The scientific comparison and classification according to fingerprints, is the most reliable method of identity (Marais, 1992:25). Marais (1992:24) also states that the most common and ordinary methods of identifying a suspect are through documentation, photos and unique personal qualities. There are different categories of identification, according to Van Heerden (1986:195), Du Preez (1996:4) and Newburn et al. (2007:303). These are situation identification, imprint identification, witness identification, victim identification, culprit identification, action identification, origin identification and cumulative identification.

The researcher will not concentrate on situation identification, as it refers to identifying the act. This is not under discussion in this research, because it has to do with the identification of the elements of the crime. Imprint identification will also not be discussed, but will be mentioned, as it will assist with individualisation.

2.5.1 Witness identification

Witness identification individualises the part played by the alleged perpetrator by means of the account of events that emerges from the statements of complainants and witnesses (Van Heerden, 1986:195). The teller at the bank is normally an essential witness in identifying the suspect as the perpetrator. The teller is, for all practical purposes, the complainant, because the representation was made to them. The teller would hand over the fraudulent cheque to the investigator, which could further contribute to the identity of the suspect. The investigator could examine the cheque for fingerprints of the suspect, and also other prints which could lead to the identification of further possible witnesses.

2.5.2 Victim identification

Victim identification concerns, in particular, the identification of the person who has been prejudiced during the cheque/document fraud. The victim might have more information about the individual from whom the cheque/document was received. The complainant must mention if the suspect wrote out and signed the cheque in their presence. The cheque can be linked to the suspect, and to the specific transaction, by the teller or person who accepted the cheque. If it was a stolen cheque, the account holder might be able to assist in identifying a possible perpetrator.

2.5.3 Imprint identification

Imprint identification attempts to achieve individualisation by comparing a disputed imprint with a controlled imprint of the alleged object (Du Preez, 1996:6; Van Rooyen, 2004:11). Imprint identification would therefore only help with individualisation, and not in identifying or tracing the perpetrator. However, the possibility does exist that the handwriting of a specific person could be identified, which could assist the investigation officer in tracing the perpetrator. Fingerprints would therefore also be an imprint.

Identification can therefore occur, because the characteristics of objects are transferred to the surface of another object with which they come into contact (Van Heerden, 1985:15). According to Owen (2000:147), most people are

taught to write by copying a particular handwriting style. Owen is further of the opinion that as individuals become more accustomed to writing and have to write more quickly, letters and words begin to acquire idiosyncrasies associated with that person's individual experience and coordination. Individual variations from the standard writing styles are the elements handwriting experts are most interested in, especially any differences that may be characteristic of, and so help identify, the writer. Imprint identification would therefore only assist if individualisation can take place – that is, if a possibility exists that the handwriting could be identified as that of a specific person.

Further examples are individualisation of handwriting, signatures, typewriting, printed matter and stamped impressions, the identification of forgeries, erasures and additions, and other examinations done by the Questioned Document Unit of the South African Police Service. They are also mainly focused on the basic principle that unique individual characteristics occur between the questioned matter and the specimens used for comparison. The expert must identify these fundamental individual characteristics before individualisation can take place.

2.5.4 Origin Identification

Origin identification is mainly concerned with the analysis of organic and inorganic solids and fluids to determine whether the disputed sample and the specimen have a common origin. For example, if a cheque is counterfeited, it might be possible to individualise the ink of the printer as the same ink on the counterfeited cheque (Participant 15, 2010). This example was verified with the other participants, and they were in agreement. If the printer is identified and connected to the suspect's computer, it could assist the investigation by proving that the counterfeited cheque originated from the perpetrator's printer.

2.5.5 Action Identification

Action identification refers to the identification of human acts that are directly related to the crime, and, indeed, constitute the essential element of the crime. Many criminals have a particular MO which is their characteristic way

of committing a crime. Physical evidence can help in establishing an MO (Lee & Harris, 2000:13) for example to investigate whether the same syndicate was responsible for the specific cheque/document fraud crimes.

As specific syndicate members had previously been identified and traced and successfully convicted in court for cheque fraud, the investigator could link these new reported cheque fraud cases to the same syndicate members. The MO played an important role in identifying the perpetrators, and the researcher could clearly see the important role that action identification played in these investigations.

2.5.6 Culprit identification

According to Marais (1992:4-5), perpetrator identification refers to the positive identification of the person, rather than to the identification of his unlawful participation in the crime being investigated. The determination of the identity of the perpetrator, or suspected perpetrator, or suspected perpetrator of a criminal act, is of decisive importance, because the detection and, by implication, clarification of the crime situation, is hardly possible without it. In this research the researcher has had the same concern: to identify the perpetrator. The collection of information and facts in order to determine the identity of the offender and his part in the crime remains the crux of any crime investigation. In the collection process, the crime investigator can make use of both direct and indirect methods of identification.

The direct method refers especially to perpetrator identification techniques such as personal descriptions, sketches, identification parades, incidental identifications, photo identification, voice identification and MO (Owen, 2000:225-227). As opposed to this, the indirect method has to do with physical evidence by which the identity of the offender and his part in the crime may be determined. Examples of this are physical evidence left behind on the scene by the offender, such as fingerprints, documents, and so on.

The tracing of the perpetrator needs to start with the information on the fraudulent cheque/document, such as fingerprints, handwriting, indentations

and signatures, and the participant is of the opinion that this should be carefully evaluated until it could be used as evidence (Participant 15, 2010).

To identify a fingerprint found at the crime scene simply as a fingerprint, is meaningless, until it is compared with a fingerprint of a specific person – then it becomes valuable (Callanan, 1994:2). According to Marais (1992:25), the most reliable method of identification is the comparison by fingerprints. According to Callanan (1994:3), the qualities of the ideal identification medium are –

- Invariable,
- Universal,
- Unique,
- easily reproducible,
- classifiable.

During cheque fraud investigation, the perpetrator could be identified through possible photos, CCTV recordings, the teller, or an account holder.

The participants were asked to indicate which sources they mostly relied on to identify and trace the perpetrators in their fraud cases.

Sample A responded as follows:

- Ten participants said they relied mostly on the information gathered from the victims, to identify their perpetrators.
- Five participants said: to rely on witnesses to identify the perpetrators.

Sample B responded as follows:

- Nine participants relied on witnesses and information gathering to identify the perpetrator.
- Six participants relied on informers to identify the perpetrator and obtain evidence.

These results demonstrate that the participants relied on their victims to identify and trace the perpetrators. This indicates the importance of effective

questioning of the victim/complainant, emphasised by Lee and Harris (2000:24), and shows that people (complainant, witness, evidence) are by far the most common method used by the participants to identify and trace their suspects. Marais (1992:24) states that apart from the positive identification by people and evidence, the investigator should still continue with scientific methods to prove the suspect's identity beyond reasonable doubt. The participants knew what the identification categories are.

2.5.7 Cumulative identification

Cumulative identification is where the contributions of different specialists are collectively considered within the framework of the history and relevant circumstances of the crime situation as a whole. This means that all the identification categories should be utilised during the forensic investigation, before a conclusion can be made that would assist the investigator to have enough evidence or circumstantial evidence to summons the perpetrator to appear in a court of law. According to Marais (1992:2), the challenge for the crime investigator is to individualise the particular crime (situation identification) as the act of a specific person (culprit identification) against the victim (victim identification). The process of individualisation amounts to sufficient evidence being produced in court to prove the guilt of the accused in the criminal act.

During the investigation process, all the different categories of identification are important. The participants were familiar with the concept. They were also in line with the literature.

2.6 FRAUD

Fraud is a criminal deception intended to result in financial or personal gain (Wells, 2004:2). It is an intentional distortion of the facts to mislead a victim into believing that something is true, when, in fact it, is untrue (Lambrechts & Theart, 1996:33). Snyman (2002:520) says that through the analysis of all definitions of fraud, the following elements may be clearly identified:

misrepresentation, prejudice, unlawfulness and intention. Burchell and Milton (1997:579) also agree with the definition.

There could also be attempted fraud. Where the misrepresentation was not completed and it did not reach the potential representee, but it can be proved that the misrepresentation is potentially prejudice, the presenter could be found guilty of attempted fraud (South African Police Service, 2002:24).

Misrepresentation is, according to Joubert (2001:153), when the perpetrator makes a misrepresentation to the prejudiced party. A misrepresentation consists of a false message which is conveyed by one person to another. The basic ingredient of a misrepresentation is that it is a lie, or “a perversion or distortion of the truth” (Snyman, 2002:521).

One of the elements of all crimes is an act or action. This consists of voluntary human conduct, which can manifest itself in either the doing of something (commission), or the failure to do something which the law requires to be done (omission). The first thing that the investigator has to determine is whether the suspect did, in fact, act. With regard to fraud, uttering and forgery, the act consists of a misrepresentation (Hawkins, 1994:4).

Prejudice or potential prejudice is the next general requirement for fraud. The mere telling of a lie is not punishable as fraud, but a crime is committed if the telling of a lie brings some form of harm to another. For example, in *Lala* 1934 TPD 123 the accused represented to the complainant that he owned a shop (Snyman, 2002:522). This influenced the complainant to grant him credit. Before the period of credit expired, the complainant discovered that the accused did not own a shop. The accused was charged with fraud, and convicted. The fact that the period of credit had not expired was irrelevant, as the crime was committed at the time when the misrepresentation was made. The complainant suffered actual prejudice as he now had a debtor to whom he would not have granted credit had he known that he did not own a shop. Merely the possibility of prejudice is sufficient.

Unlawfulness is a violation of a statutory provision, which either prescribes or prohibits an act. It is often difficult to determine which acts or omissions will be regarded as unlawful, as there are no hard and fast rules as to how unlawfulness is to be determined. Where a particular act or omission has not previously been identified as being unlawful, the courts take it upon themselves to determine the matter. According to *The Minister of Police v Ewels* 1975 (3) SA 590 (AD), the general rule is, however, that the unlawfulness of an act or omission is determined according to the perceptions of society as to what is legally wrong or right at any given time.

Intention is an element that applies both to the act (misrepresentation) and to the consequences therefore (prejudice), as determined in *Kruse* 1946 AD 524, *Harvey* 1956 (1) SA 461 and *Heyne* 1956 (3) SA 604 (AD). The perpetrator must have the intention to both deceive – that is, the intention to induce another to believe that something is true which, in fact, is untrue, and to defraud – that is, the intention to induce somebody to act to his prejudice on the grounds of misrepresentation.

Both samples were asked the meaning of fraud.

Sample A responded as follows:

- Eight participants said this means a misrepresentation by one person to another, irrespective of whether or not there is material loss, and the rest of the elements are unlawfulness, intent and prejudice.
- Six participants said that fraud could be committed if a person misrepresented him or herself to be someone they are not.
- One participant said it is when a person unlawfully draws up a false cheque with the intention to defraud another person, to the actual or potential prejudice of the person.

Sample B responded as follows:

- Ten participants said this means a misrepresentation by one person to another, irrespective of whether or not there is material loss, and the rest of the elements are unlawfulness, intent and prejudice.
- Five said that fraud is a misrepresentation by one person to another, irrespective of whether or not there is material loss.

The two samples were in agreement with each other. These responses of the participants are in line with the literature. Joubert (2001:157) and Burchell and Milton (1997:59) state that fraud consists of the unlawful making of a false cheque/document with the intent to defraud – which causes actual or potential prejudice to another. For Wells (2004:128), fraud is falsely making an altering, with intent to defraud, of a negotiable and illegal, enforceable instrument such as a cheque. Snyman (2002:532) says that uttering, like forgery, is merely a species of fraud.

It is an intentional distortion of the facts to mislead a victim into believing that something is true, when, in fact, it is untrue. The elements of the fraud must be present – namely, misrepresentation, prejudice, unlawfulness and intention. According to the viewpoint of the samples and the literature, it is clear that the participants had knowledge of what fraud is.

2.7 EVIDENCE

Marais (1992:5) states that evidence is factual information. For example, the owner of a cheque/document might be known, but on the cheque itself there can be further evidence such as handwriting, signature, prints, identity and an address. Gardner (2005:7) defines evidence as anything that tends to prove or disprove a fact in contention.

According to Marais (1992:5), physical evidence is a matter of things rather than people. Physical evidence is “real evidence” (Schmidt & Rademeyer,

2000:327). It is visible and recognisable as an object, instrument, or print, etc. Real evidence can be measured, photographed, analysed and presented in court as a physical object. “Real evidence” is the term used to cover the production of material objects for inspection by the court.

The following are some of the types of material objects used as real evidence: the weapon used in the commission of a crime, fingerprints, photographs, handwriting, documents and fraudulent cheques/documents (Schmidt & Rademeyer, 2000:327; Fisher, 2004:1). Schwikkard, Skeen, Van der Merwe, De Vos, Terblanche and Van der Berg (1997:254) support the statement about “real evidence” made by Schmidt and Rademeyer (2000:327).

Byrd (2004:1) explains that physical evidence refers to any material that is present at the crime scene. He further explains that evidence falls into two categories: testimonial evidence and physical evidence. The investigator is the person responsible for collecting all the evidence at the crime scene (Genge, 2002:18). All physical evidence at the crime scene should be collected and kept in such a way that identity and legal integrity is always protected (Genge, 2002:8).

Evidence is something legally submitted to a competent tribunal as a means of ascertaining the truth of any alleged matter of fact under investigation before it (Fisher, 2004:1; Adams et al. 2004:77). Evidence can be direct evidence, circumstantial evidence, testimonial evidence or physical evidence (Schwikkard et al., 1997:16). Ogle (2004:1-2) support the above statement, as it describes evidence as an oral statement, and includes documents and objects produced in court. Zeffertt, Paizes and Skeen (2003:142) explain evidence as follows: “Evidence tending to prove a person’s identity may be direct or circumstantial.” The supremacy of the South African Constitution means that evidence collected for the purposes of investigation must be done justly, fairly, and within the ambit of the law.

Both samples were asked what evidence is.

Sample A responded as follows:

- Ten participants stated that evidence is given in a court of law and proves what happened during the criminal incident.
- Five participants said that evidence can be seen as the building blocks of the case, as investigated and revealed by the investigator and presented in court by the prosecutor.

Sample B responded as follows:

- Nine participants stated that evidence is the means by which the investigator proves or disproves certain allegations in court during the trial. No prosecution can take place without sufficient evidence.
- Six participants stated that evidence is the information that the investigator finds during the investigation process, and that this information is given to the prosecutor to start the prosecution process with, if it is found to be sufficient.

Twenty-five participants stated that evidence is used in court to prove the crime, while five participants were of the opinion that evidence is also information that the investigator obtains during the investigation. The participants understood what evidence is and that it plays an important role in the investigation process.

From the literature reviewed, and responses of the participants, it was concluded that evidence must be presented in court to prove the case. It is important that investigators keep this in mind during the whole investigation process, because that has to be the ultimate goal: to submit evidence in court and establish the truth.

Evidence can be direct evidence, circumstantial evidence, testimonial evidence or physical evidence (Ogle, 2004:1-2).

2.7.1 Physical evidence

Physical evidence can take any form, from a large house to a piece of fibre. The value of physical evidence is explained by Fisher (2004:1-2) and Byrd (2004:1) as follows:

- Physical evidence can prove a crime has been committed, or establish key elements of a crime.
- Physical evidence can place the suspect in contact with the victim or with the crime scene.
- Physical evidence can establish the identity of persons associated with the crime.
- Physical evidence can exonerate the innocent.
- Physical evidence can corroborate the victim's testimony.
- A suspect confronted with physical evidence may make an admission, or even confess.
- Physical evidence may be more reliable than eyewitnesses.
- Court decisions have made physical evidence more important.
- Verdicts of juries in criminal cases, based on expert physical evidence.

Physical evidence consists of physical objects that are linked to the commission of a crime (Ogle, 2004:2).

2.7.2 Direct evidence

Direct evidence is evidence that proves a fact, without the necessity of an inference or a presumption, and that when true, conclusively establishes that fact. An example is testimony by a completely credible witness that proves the fact stated in the testimony (Ogle, 2004:2). Direct evidence is testimony of a witness who says, for example, who the accused is, who committed the crime.

2.7.3 Circumstantial evidence

Circumstantial evidence involves a series of facts that, although not the fact at issue, tends, through inference, to prove a fact at issue. This type of evidence is usually a chain of circumstances from which a fair assumption can be made as to the validity of the fact at issue (Ogle, 2004:2). Circumstantial evidence

may be a characteristic which the accused is shown to have in common with the alleged criminal, such as fingerprints, or handwriting, or habits of behaviour.

2.7.4 Testimonial evidence

Testimonial evidence is evidence given by laypeople or expert witnesses. The principal test for this type of evidence is the credibility of the witness (Ogle, 2004:2).

During the case docket analysis, it was found that in twelve of the 40 dockets, the accused were convicted because there was sufficient evidence to prove the case. Ten dockets were withdrawn, and/or the accused were acquitted due to lack of evidence. In the remaining dockets the suspects could not be traced.

2.8 CHAIN OF CUSTODY

Chain of possession is an admissibility requirement for all types of evidence and, particularly, disputed evidence. Du Preez (1996:3) submits that relevant information must be collected and preserved in such a way that its legal integrity is maintained. According this author, maintenance of continuity of possession is of vital importance in the evidential process, and this simply means the continuous safekeeping and identification of physical evidence.

Chain of possession is an account of changes in evidence – for example, if any portion has been used for laboratory analysis. This begins as soon as the evidence has been found at the scene, until it is produced as evidence or proof in court (Swanson et al., 2003:33). From the moment that an item is collected from the crime scene to the moment it is introduced in the courtroom as evidence, a lengthy period of time may elapse. The possession, time and date of transfer, and location of physical evidence from the time it is obtained to the time it is presented in court, are all encapsulated in the chain of possession (Kobilinsky, Liotti & Oeser-Sweat, 2005:43).

Both samples were asked what they understand by the meaning of the chain of possession.

Sample A responded as follows:

- Three participants mentioned that the number of people coming into contact with the disputed documents must be limited.
- Two participants submitted that there must be a clear record keeping of all those who come into contact with the samples.
- Eight participants said that anyone who comes into contact with the samples must make a statement to that effect. According to them, investigators must use the seal bag provided by the Supply Chain Management of the Police in order to facilitate the chain of possession.
- Two participants said it is a continuous possession of how the exhibit is, and where it was kept from the day of registration allocated to the analyst until it was completed, where it was kept in safekeeping.

Sample B responded as follows:

- Twelve participants said that each person who handled the exhibit evidence must submit an affidavit to make sure the evidence not tampered with.
- Three participants said that the evidence must be kept safe, and to complete the chain of evidence with supporting affidavits.

These responses were compared with the literature, and it became clear that they touched on most of the guidelines as contained in the literature.

According to Van Rooyen (2004:12), the following guidelines can ensure the maintenance of a chain of possession:

- Any changes to the evidence must be recorded, and later reported in the courts.
- Once evidence leaves the possession of an individual, a record must be kept.
- Obtain a signed receipt from anyone accepting the sample.

- Limit the number of people who handle the evidence.
- All people who handle the evidence must affix names and assignment to the package.
- When evidence is returned, establish any changes to the evidence.

The responses of the participants were comparable to the lessons that can be drawn from the case of *S v Kaptein* 1984 (3) SA 316 (CPD). These lessons are as follows:

- All exhibits must be handled with care.
- An accurate record is to be made each time these exhibits are moved, handled or come into contact with other person.
- Exhibits should be properly marked, and have sufficient and accurate records of measurements of quantity and weight.
- Few people must be allowed to handle any exhibit.

In the case of *S v Kaptein* 1984, the court held that the chain of possession was compromised after the pharmacist, who was giving an expert testimony, measured the weight of dagga grams instead of the original recorded mass of 745, 5 grams. In this case, further confusion was caused by flawed marking of the exhibit, and a lack of accountability on the part of the members of the SAPS. The findings of this case also indicate that the guidelines provided by Van Rooyen (2004:12) were not adhered to. It is therefore clear that if the chain of possession is not clearly maintained, the court is likely to dismiss such evidence.

The case docket analysis showed the following:

- Evidence on the chain of evidence was available in 28 of the case dockets, where exhibits were gathered from the crime scene for submission in court.
- On perusing the 28 court cases, the researcher discovered that a chain of evidence was available in 20 case dockets, from the crime scene

where physical evidence was gathered, to submission of the results in court.

- In eight cases, the chain of evidence was completed during the court process, after first appearance, and before the trial started, because of a backlog of cases that had to be analysed at the Forensic Science Laboratory.

2.9 SUMMARY

The objectives of criminal investigation are to identify the crime that has committed, gather evidence, individualise the perpetrator, link the criminal to the crime and arrest the criminal, trace the possible stolen property, and be involved in the prosecution process.

The researcher focuses on the identification and the identification categories – which are crucial in the investigation of crime. Efforts towards identification are made of both known and unknown suspects. When a suspect is unknown, identification efforts focus on trace evidence and/or eyewitness accounts.

Investigation requires the specific skills required to gather evidence and present this evidence to a court of law. Every crime should be managed in such a way that all physical evidence can be collected from it, in order to ensure successful prosecution and conviction (Bester & Rambujan, 2002:21). The primary requirement is that the integrity of the samples must be kept intact through the maintenance of the chain of possession. The investigators must ensure that the investigation is done within the parameters of the law.

CHAPTER THREE

HANDWRITING AS AN INDIVIDUALISATION TECHNIQUE IN FRAUD INVESTIGATION

3.1 INTRODUCTION

The basic purpose of investigation is to collect facts that can serve as evidence before a court of law, through which the participation of an accused in the commission of a crime can be proved. Investigators deal with information on a daily basis. Their ability to obtain, gather and collect information, and use it during a criminal investigation to eventually obtain evidence, to a large extent determines their success as investigators. According to Hawkins (1994:137), the successful investigating officer needs a variety of skills, but the most important skill is the ability to know how and where to find information which could become important evidence.

In this chapter the researcher discusses how handwriting can be utilised as an individualisation technique in the investigation of fraud. The researcher covers handwriting specimens and the individualisation thereof, and as well as the individualisation process for handwriting. The researcher discusses the processing of the crime scene, including the collection, preservation and packaging of exhibits.

3.2 HANDWRITING SPECIMENS

Handwriting is formed by a series of subconscious patterns which occur out of habit and are as much a part of an individual as any other personal habit (Palm, 2000:3). Handwriting is a means of expressing language, as with speech, and it also leaves a lasting trace (Huber & Headrick, 1999:176). Handwriting specimens can be defined as a condensed and compact set of authentic specimens which, if adequate and proper, should contain a true cross section of the material from a known source (Huber & Headrick, 1999:177).

In handwriting recognition, forensic handwriting analysis and signature verification, the term 'sample' refers to a specimen of handwriting (Sleyter, 1995:9). Handwriting is formed by a series of subconscious patterns which occur out of habit (Palm, 2000:3). It is possible that someone could identify handwriting on a cheque/document as belonging to a specific person that they know. It is also possible that an experienced investigator, who deals with syndicate investigations on a daily basis, might identify the handwriting on a document/cheque as that of a perpetrator previously investigated. This rarely happens in practice, however (James & Nordby, 2003:359). A document is any piece of written information in any form, produced or received by an organisation or person. It can include a database, letters, and text and spreadsheet files (James & Nordby, 2003:360).

Handwriting specimens fall into two categories – namely, 'requested' specimens and 'collected' specimens. Requested specimens are signatures which are for the purpose of conducting a handwriting comparison. A requested specimen is when a person seeks the services of a handwriting expert (Huber & Headrick, 1999:177).

Both samples were asked what a handwriting specimen is.

Sample A responded as follows:

- Nine participants said that a handwriting specimen is handwriting samples that reveal how a person writes.
- Six participants said that a handwriting specimen is that which has been requested for comparison when needed for a case.

Sample B responded as follows:

- Ten participants said it refers to a specimen of handwriting on a day-to-day basis.
- Five participants said it is to identify the handwriting of a suspected person.

The viewpoints of the samples are in agreement with each other. It is clear that they did not know what a handwriting specimen is, and were not in line with the literature. There is a difference between requested specimens and non-requested specimens.

Both samples were also asked whether they ever obtain handwriting specimens for analysis. Sample A's responses were that 12 participants had obtained handwriting specimens to be analysed. Three participants said 'no', because they had never dealt with such cases where there was a need to obtain handwriting specimens. The participants of Sample B's responses were also recorded. Three participants said 'yes', when they worked in the SAPS. The other twelve participants said 'no', they had never obtained handwriting specimens, because of a lack of knowledge and experience.

The viewpoints of the participants show that there is clearly a lack of experience. Only 12 participants had obtained handwriting specimens, and 18 of the participants had never obtained handwriting specimens, for individualisation purposes.

During the case docket analysis, the researcher found that in eighteen of the 40 dockets, handwriting was obtained and examined to individualise the perpetrator. In the remaining 23 case dockets the suspect remained unknown, and the cases were closed undetected. It seems to be normal practice for the cheques/documents to be first sent to a handwriting expert, before being taken for fingerprint examination.

3.3 STANDARDS FOR HANDWRITING COMPARISON

Requested standards are those writings or letterings that are executed at the request of an investigator, a counsel or any other person in the court/prosecution in terms of Sec 37 (3) (a) of the Criminal Procedure Act (South Africa, 1977). Handwriting as collected standards are the preferred material to work with in most cases, for it is a normal and natural product. Collected standards, however, consisting of similar texts to that of the

questioned writing, such that they will contain similar letters, letter combinations and letter locations, may not exist, or may be difficult to find. (Huber & Headrick, 1999:247).

According to James and Nordby (2003:360), in doing a comparison, an examiner studies the characteristics – such as how letters are constructed, how they are connected, the beginning and ending strokes of letters, the relative height ratio of letters, the spacing between letters and words, and the skill level, speed, size and shading.

Requested writings, on the other hand, are frequently influenced by the circumstances and the knowledge that they are to be the subject of some examination. If the writer of the request writings is, in fact, the author of some writing in dispute, it is not unusual to find that the specimens are altered from the person's normal writing in some manner. If the writer of the request writings is not the author of the disputed material, the circumstances themselves may induce a degree of nervousness that may have some effect upon the fluency of the writing (Huber & Headrick, 1999:47).

Handwriting comparisons require samples of writing from those individuals who are considered to be potential authors that meet the following conditions, according to Huber & Headrick (1999:48):

- They are sufficient in number to exhibit normal writing habits in executing the questioned text or parts thereof, and to portray the consistency with which particular habits are executed. Since humans are not inanimate machines operating mechanically within narrow tolerances, natural writing has in its elements a degree of variation from one writing occasion to the next, the range of which is peculiar to the person. Writing standards should be sufficient to portray the range of those variations. For skilled or practised hands, half a dozen signatures, or one or two pages of extended writing, might prove adequate. For others, the requirement might be greater.

- They include some samples in original ink. Original ink samples have a three-dimensional character to them, with which aspects of instrument control, particularly pen pressure (point load) and pen position, may be observed or calculated. These properties of the writing may be important in examinations or studies.
- They consist of both collected and requested samples. Collected standards, in addition to being more representative of normal writing habits, are also indicators of the degree of reliance that can be placed on requested writings that may or may not be deliberately altered. Also, they can be more contemporaneous with older questioned documents. On the other hand, requested writings can provide duplication of the letter combinations of the questioned material.
- They duplicate the conditions or nature of the questioned writing. Many things may influence a person's writing, from the writing instrument and handwriting circumstances to the writer's age or temperament. The extent to which they can be duplicated in writing standards is the extent to which these variables can be controlled. Thus, the comparison should be made of like material, of similar age, similar letters or letter combinations, similar words, names or phrases, written under similar conditions, and with the same media (instrument and paper). Much that has been written on standards of comparison is directed at the control of these variables. A comparison of general writing features, such as size, slant, and proportions, may not provide sufficient evidence from which definitive conclusions can be drawn.

Both samples were asked what standards are required for handwriting comparison.

Sample A responded as follows:

- Nine participants said that comparison standards are a condensed and compact set of authentic samples of known origin with which the disputed document is compared.

- Three participants said it is to give the writer a prepared text to write, which includes, more or less, the characteristics to compare.
- Three participants said the standards for handwriting will be the discriminating elements which will guide one on what to look for, or which steps to follow, when examining the handwriting document or case.

Sample B responded as follows:

- Five participants said it is to obtain requested samples from the suspect for example signatures for comparison to link the suspect to the crime.
- Five participants said that collected and requested standards are required for handwriting and signature comparison.
- Five participants could not answer the question.

The responses of the participants and the literature are in line with each other. Requested and collected specimens are required for handwriting and signature comparison, to be able to link the perpetrator to the crime.

3.4 PROCEDURE FOR OBTAINING HANDWRITING SPECIMENS

According to Hilton (1993:161), the characteristics of the questioned item are then compared against the known standard. The investigator should take efficient handwriting samples for comparison.

According to Gardner (2005:27) and Wells (2004:53), there are factors such as presence of obvious alterations and crowding, presence of obvious erasures, noticeable differences in handwriting, noticeable differences in a signature, and use of different inks in obtaining of handwriting specimens for individualisation purposes. These factors are discussed further, as follows:

3.4.1 Presence of obvious alterations and crowding

Alterations are usually made to a cheque/document in order to deceive (Wells, 2004:149). A person could therefore be charged with forgery, uttering or fraud (Wells, 2004:128). Marais (1992:184) suggests that a forensic investigator could sometimes, depending on how professionally the alterations were done, determine the following:

- Additions,
- Omissions,
- changes to the content or meaning of words,
- addition or erasure of words.

Olivier (2004:11) explains that alterations are made by overwriting, or by the patching of existing writing. Wells (2004:149) agrees with Olivier. The most common form of alteration is the changing of numerals, such as a “1” to a “7” (Olivier, 2004:11). The investigator should also look out for crowding – for example, an extra zero will be added to increase the amount (Wells, 2004:149).

3.4.2 Presence of obvious erasures

A person can be charged with forgery when they erase something from a legitimate cheque/document (Wells, 2004:128). Erasures are made to a cheque in order to deceive (Marais, 1992:184). Erasure is the destruction or partial destruction, by means of mechanical methods or chemical agents, of the handwriting, typewriting or printing, or by means of another medium, as a result of which the message on the cheque is disguised or distorted (Palm, 2000:5; Lee & Harris, 2000:100). Olivier (2004:11) adds that erasure often accompanies alteration, but could also be used alone in many instances.

3.4.3 Noticeable difference in handwriting

Handwriting is formed by a series of subconscious patterns which occur out of habit, and are part of an individual as much as any other personal habit (Palm, 2000:3; Fisher, 2004:116; Ogle, 2004:191). Sometimes it is not possible for the investigator to see that a suspect’s handwriting used in a

misrepresentation differs from the cheque holder's real handwriting (Brayer, 2000:9). However, as in the case of signatures, the investigator is not an expert in handwriting, and will not be able to testify as one in court (Bester & Rambujan, 2002:36c).

3.4.4 Noticeable difference in a signature

Similar to handwriting, a signature is also formed by a series of subconscious patterns which occur out of habit and are part of an individual as much as any other personal habit (South African Police Service, 2002:2). Signatures, however, contain certain elements not normally found in handwriting (Palm, 2000:4). This is because a genuine signature is usually written faster than your regular handwriting, and as a result it contains fewer details than written text (Brayer, 2000:11).

Sometimes, it is possible for the investigator to see if a person's alleged signature differs from a person's real signature. But, in order to do that, a sample of the real signature has to be available. However, the investigator is not an expert in signatures, and will not be able to testify as one in court. In *S v Ndhlovu and Others* 2001(1) SACR 85 (WLD) the court ruled that it could only accept the opinion of a handwriting expert, which would link the suspect to the crime.

The principle of handwriting individualisation is the same as with anything where a large number of possible variations can be identified as belonging to a specific class (South African Police Service, 2002:2). Signatures contain certain elements not normally found in handwriting, and contain a restricted number of letters. When the elements of a signature concur with all the identifying elements of comparison specimens, the conclusion are reached that it was signed by the same person (South African Police Service, 2002:3).

3.4.5 Use of different inks

Ink contains many characteristics that could, under certain circumstances, indicate to the expert that the writing instrument has been changed (Gardner, 2005:53). A cheque may have been completed with different types of ink. The

difference in ink can be determined by its chemical composition (Lee & Harris, 2000:112). Different inks of the same type can be distinguished as a result of a difference in colour, serial and fluidity (Marais, 1992:185).

3.5 PROTECTION OF DISPUTED DOCUMENTS

A document is any piece of written information in any form, produced or received by an organisation or person. It can include a database, letters, and text and spread sheet files (James & Nordby, 2003:360). According to Hilton (1993:349), documents are generally neglected by people. In daily society, documents are folded, stamped, marked and filed. When such a document is disputed and has to be subjected to a thorough examination, it could be in such a neglected condition that a proper examination is not possible.

The question asked, was, "How will a disputed document be protected for handwriting analysis?"

Sample A responded as follows:

- Ten participants said: do not fold, cut and staple a disputed document, and put it in a protective sleeve.
- Five participants said it is of cardinal importance that evidential documents are protected in the same condition as when they were received for examination. When documents, whether disputed or a sample, are handled carelessly or negligently, the accuracy and completeness of interpretations could be influenced.

Sample B responded as follows:

- Ten participants said it is very important when collecting disputed evidence, that it must be kept in its original state and protected.
- Five participants said: to keep it safe in protective covers until it is taken to Forensics.

The participants knew how the disputed documents should be protected, and are in line with the literature. According to the participants, a disputed document must always be kept and protected at its original standard. It must always be put in protective covers and locked in a safe until it is taken to Forensics.

Compliance with a few obvious guidelines, in the form of 'do's' and 'don'ts' can address the problem and complications which are experienced in the ill-treatment of exhibits (South African Police Service, 2002:22):

DO'S

- Keep documents unfolded in protective envelopes.
- Take disputed papers to the document examiner's laboratory at the first opportunity.
- If storage is necessary, keep the document in a dry place, away from excessive heat and strong light which can expedite obsolescence.

DON'TS

- Do not handle disputed papers excessively or carry them in a pocket for a long time.
- Do not mark disputed documents (either by consciously writing on them or by pointing at them with writing instruments or dividers).
- Do not mutilate or damage by repeated refolding, creasing, cutting, tearing, or punching for filing purposes.
- Do not allow anyone except qualified specialists to carry out chemical or other tests, and do not treat or dust for latent fingerprints before consulting a document examiner.

A disputed document which is important enough to be subjected to scientific study certainly deserves better than average care (Hilton, 1993:350).

3.6 PACKAGING OF A DISPUTED DOCUMENTS

Evidence must be packaged so as to avoid breakage, loss or contamination in transit (Genge, 2002:66). Tweezers, forceps and similar tools are used to collect and place traces and small items in their containers. Rubber gloves are suggested for handling some evidence (Hilton, 1993:350).

The documents should be packed separately – for example, questioned documents in an envelope, specimen writing of the first person in an envelope, and specimen writing of the second person in another envelope. Documents may contain indentations which may have important evidentiary value. The envelopes should be marked before the exhibits are packed. Only exhibits relevant to a single reference number may be packed in the same parcel or envelope.

Items of evidence that will undergo comparison analysis for possible relationships should be packaged in separate containers to obviate any allegation of cross-contamination (Genge, 2002:66). Thoroughly clean and dry containers, wrapping paper, corrugated paper, boxes, and sealing tape, are the basic safeguards for physical evidence in transport.

Documentary evidence is first placed in transparent envelopes, without folding or bending, then between two pieces of firm, corrugated cardboard, and then in a manila envelope or other wrapper, according to the South African Police Service (2002:24).

The samples were asked how they would pack a disputed document.

Sample A responded as follows:

- Twelve participants said that a disputed document must be packed in such a way as to avoid contamination and prevent the disputed document from being damaged.
- Three participants said that the disputed document must be packed to prevent contamination and breakage.

Sample B responded as follows:

- Seven participants said that a disputed document must always be packed for safekeeping, and avoid being cut or folded.
- Eight participants said it must just be kept safe, because of a lack of experience and no one ever having been to training.

According to the South African Police Service (2002:26), the following guidelines are set out for the packing of exhibits:

- Pack securely to prevent breakage or damage.
- Pack in such a way as to prevent contamination.
- Each exhibit must be clearly identifiable with an unique exhibit number that appears on its container and which also corresponds with the number mentioned in the covering letter.
- Seal all containers with a legible official seal.
- In the case of fragile documents, it should be packed between two pieces of carton to prevent damage.

Packaging of samples is very important in admissibility, as it has a direct impact on the integrity of the samples. For instance, Savino and Turvey (2005:83-84) submit that the packaging should be done in such a way that the exhibits are able to ‘breathe’. These authors argue that plastic enclosure will cause condensation of moisture, and promote bacterial and fungal growth when packaging wet exhibits. It is vital that the results from a sample affected by bacteria and fungi be challengeable in any court of law.

The responses of the participants were in line with the submission of Fisher (2004:89), who elaborates that the proper packaging of samples will prevent breakage, spoilage or contamination. This question is adequately answered by Van Rooyen (2004:106) who states categorically that correct packaging and sealing of physical evidence largely determines the integrity of that evidence.

3.7 MARKING OF A DISPUTED DOCUMENTS

Marking evidence serves to identify it. Marking must not impair the value of evidence, or restrict the number and kind of examinations to which it might be subjected by criminalists and other experts (Du Preez, 1996:65).

According to the South African Police Service (2002:25), the following guidelines apply, regarding the marking of a disputed document:

- It is preferable that the documents are placed in envelopes and the envelopes be suitably marked. Only in exceptional circumstances should it be necessary to place a mark on a document itself, and then it should be placed in a position which will have no influence on the examination.
- Two covering letters must always accompany the exhibits, with the following requirements: the first covering letter must be inside the parcel/envelope containing the exhibits. The second covering letter, in the case of a parcel, is placed in an envelope and attached to the outside of the parcel. In the case of an envelope, the sealed envelope containing the exhibit/s is placed in a larger envelope, together with the second covering letter.

The question posed to both samples, was, "How will you mark a disputed document?"

Sample A responded as follows:

- Nine participants said the exhibit needs to be marked clearly, and packed and sealed.
- Six participants said it should be marked with the investigating officer's name, telephone number and code, full postal address, and case reference number.

Sample B responded as follows:

- Five participants said it should be marked with a short summary of the case, a full explanation of the examinations required, and

other relevant information which may be important in the examination of the case.

- Ten participants said one needs to complete a description of the exhibits, and to have them marked, packed and sealed.

According to the responses of the participants, it appears to be important how disputed documents are marked and sealed as evidence, in court, for the investigating officer and the document expert. The investigating officer must render evidence as to where the questioned document was found, kept for safekeeping, sealed, and the way the document and package/envelope was marked by them. For this reason it is imperative that the specimens are marked in such a way that no doubt can be cast.

The participants' responses agreed with Du Preez (1996:66) and the SAPS (2002:25) regarding the question, "How will you mark a disputed document?" There is consistency between the literature and the responses of the participants.

3.8 INDIVIDUALISATION

The word "individualisation" comes from the Latin word *individuus*, which is based on the word *dividere*, which means "to divide". Individualisation means to distinguish somebody from others (Horswell, 2004:6). This implies that things are unique and can therefore be distinguished from all others (Doyle, 2003:2; Fisher, 2004:5). Fisher (2004:5) and Lee et al. (2003:184) state that individualisation means that an item of evidence comes from a unique source.

Individualisation in investigation simply means that a crime is individualised as the act of a particular person or persons (Du Preez, 1996:6; Gardner, 2005:24). This means that one does not only identify an object as such, but that one compares it with other samples of known origin with a view to determining individuality (Callanan, 1994:1; Ogle, 2004:9). In handwriting, for example, an expert can, by means of comparison, individualise a sample of

handwriting as being that of a specific person, on the basis of the unique features of that specific person's handwriting.

Doyle (2003:2) and Lee and Harris (2000:12) explain that individualisation means that a conclusion is reached by the expert that all characteristics/unique features agree, and that a sufficient correlation between individual characteristics is found. Ogle (2004:6) shares Doyle's viewpoint. Therefore, individualisation involves comparisons, usually of the disputed object found at the scene of crime, with the one of known origin, obtained, for example, from the suspected criminal (Du Preez, 1996:6).

In twenty-nine of the forty cases that were analysed by the researcher as part of the case study, individualisation of perpetrators was done. The perpetrators were linked to the crime by matching their handwriting/signatures to those found on fraudulent cheques. In the other cases, no individualisation was done because the suspects could not be linked to the crime scene.

Both samples were asked what individualisation is.

Sample A responded as follows:

- Fourteen participants said it means singling out an individual from among others, by linking them to a particular biological trace.
- One participant described it as pointing out one person from a pool of potential perpetrators.

Sample B responded as follows:

- Four participants said individualisation is the art of establishing a link between a trace and a host, which normally follows identification.
- Six participants said individualisation means to use a certain pattern in samples with the same characteristics.
- Five participants said it is to link a suspect to a crime.

According to the viewpoints of the two samples, it is clear that the participants knew what individualisation is. Individualisation refers to the demonstration

that a particular sample is unique, even among members of the same class. The participants had an understanding of what individualisation means.

These comments, especially those from the participants who said that there should be a linkage to a particular trace, are in line with the submission of Houck (2001:49), who states that trace evidence may also be used to provide valuable evidence that could assist the investigators in locating the person or persons responsible for the crimes. Although put differently, this author is pointing in the same direction by suggesting that one of the significant aspects of a disputed exhibit is individualisation. Indeed, the forensic scientists hope that a biological trace or exhibit found and identified, will ultimately lead to a single individual or a single object, to the exclusion of all other possible sources (Newburn et al., 2007:308).

3.9 HANDWRITING AS AN INDIVIDUALISATION TECHNIQUE

Individualisation of handwriting is based on the basic principle that handwriting contains unique individual characteristics (Sleyter, 1995:9). These fundamental individual characteristics must be identified by the expert before individualisation can take place. This means that the analytical methods of the examiner of documents are largely based on the expert's theoretical knowledge and practical experience. It is, therefore, vitally important to remember that handwriting can never be identical in all respects. When comparing handwriting, factors such as variations should be carefully considered to determine whether it is normal, abnormal or alien. If all factors are not taken into consideration, unfounded deductions can be made (Inman & Rudin, 2001:123).

To prove conclusively that a questioned document was written by a particular individual, it is essential that there be no other explanation for the similarities found. The possibility of incidental resemblance, as well as imitations (reproductions), must always be kept in mind. Individualisation of questioned documents is based on the fundamental principle that handwriting possesses definite individual characteristics. These basic individual characteristics give

handwriting a distinct individuality, and must be detected by the expert before individualisation can take place. The individuality of handwriting is determined by the line quality, letter design, spacing and direction of lines, arrangement, and stylistic errors. Various factors contribute to these characteristics which individually and collectively give handwriting a distinct individuality (Huber & Headrick, 1999:47).

Both samples were asked to describe handwriting as an individualisation technique:

Sample A responded as follows:

- Five participants said that individuality of handwriting will be checked for line quality, spacing and size of letters of the perpetrator's writing style.
- Six participants said that the individuality of handwriting is determined by letter design, directions of lines and the stylistic errors, on a disputed document.
- Four participants said that through individualisation of handwriting the suspect can be linked to the crime scene.

Sample B responded as follows:

- Nine of the participants described handwriting as an individualisation technique to counteracting the alibi of the perpetrator. According to them, the suspect will have to explain the presence of his or her handwriting on the crime scene.
- Six participants said that handwriting as an individualisation technique is to analyse the handwriting and link the perpetrator to the crime scene through handwriting/signatures and fingerprints.

The viewpoints of the samples are in agreement with each other, in that the handwriting of a suspect can be linked to the handwriting on a disputed document/cheque.

There are commonalities between the responses of the participants and the literature. The starting point is that it is often difficult to prosecute fraud cases,

due to the lack of evidence (Brown, 2001:11), which means that there is a need to look for substance and evidence that can prove a direct link to the suspect (Adams et al., 2004:126). From this statement and the responses from the participants, it becomes conclusive that the linkage of the perpetrator to the scene of crime is a step further than individualisation.

Based on the literature and the participants, it is the uniqueness of writing on the disputed document that can assist in individualising a perpetrator. It is important to check the line quality, size of letters, spacing of letters, connections, slant and slopes of the perpetrator, and the writing style.

The most important factor in the individualisation of a printing apparatus is that every moving part is subject to wear and tear since it has been in use (South African Police Service, 2000:3). The ink can be individualised with that on the paper, or coming from a specific printer. The investigators can then argue that it is connected to a computer in the suspect's office, but still needs to prove that the suspect has printed it. The investigators can thus link up the paper and ink to a printer, and the printer to a computer and in that manner identify the user. However, the investigators cannot individualise the real producer of the cheque/document, except if fingerprints are found that would individualise him or her. Otherwise, it would again just be circumstantial evidence.

During the case docket analysis the researcher could see that evidence had been presented in court, because the subpoena was sent to the expert to attend court.

3.10 HANDWRITING INDIVIDUALISATION PROCESS

The analysing of handwriting is a long, careful process that takes time and, under ideal circumstances, many comparison samples or exemplar-documents that have a known author (Huber & Headrick, 1999:181). Numerous exemplars make handwriting analysis far more than a simple one-to-one comparison. Every person's handwriting is unique; no one writes

exactly the same way twice. There are natural variations in a person's writing in a single document. Having, for example, ten questioned documents and ten exemplars from a suspect, assures that not only will the words and letters in the questioned documents show up in the exemplars, but also that almost all the suspect's individual characteristics will appear in both sets of samples if the suspect is the author of both (South African Police Service, 2000:8). The individualisation process of handwriting analysis is all about thoroughness. An analyst will use a magnifying glass, and sometimes even a microscope, in the comparison process (Huber & Headrick, 1999:183). An analyst is looking for a wide array of individual traits:

- Letter form – This includes the curves, slant, proportional size of letters (relationship between size of short and tall letters, and between the height and width of a single letter), slope of writing, and the use and appearance of connecting lines between letters. It's worth noting that a person may form a letter differently, depending on where the letter falls in a word (beginning, middle or end). The analyst will therefore try to find examples of each letter in each placement.
- Line form – This includes how smooth and dark the lines are, which indicates how much pressure the writer applies while writing, and the speed of the writing.
- Formatting – This includes the spacing between the letters, the spacing between words, the placement of words on a line and the margins a writer leaves empty on a page. It is considered as spacing between lines – in other words, do strokes from words on one line intersect with strokes in words on another?

The process involves three distinct stages or steps, although routines are so well ingrained into the practices of some disciplines, that the existence of the three divisions, and our progress through them, often passes unrecognised (McCartney, 2006:1). The three stages are as follows:

- Analysis or discriminating element determination: The unknown item and the known items must, by analysis, examination, or study, be reduced to a matter of their discriminating elements. These are the habits of behaviour that serve to differentiate between products which

may be directly observable, measurable, or otherwise perceptible aspects of the item.

- Comparison: The discriminating elements of the unknown item observed or determined through analysis, examination, or study, must be compared with those known, observed, or recorded of the specimens.
- Evaluation: Similarities or dissimilarities in elements will each have a certain value for discrimination purposes, determined by their cause, independence, or likelihood of occurrence. The weight or significance of the similarity or difference of each element must then be considered, and the explanation for them proposed.

This process underlies the individualisation of handwriting. The comparison of elements, attributes, properties, characteristics or qualities of writing, is probably within the competence of most literate people to conduct. Whether the data is numerical, chemical, physical, or graphical, the comparison is likely to be visual. Where populations of items are large, or the data to be considered is extensive, modern technology may be engaged to assist.

The initial task in handwriting analysis is to distinguish the individual characteristics, which have evidential value, from style characteristics. This statement is consistent with the submission of McCartney (2006:1) that there is no denying the power of fingerprints and forensic DNA evidence to exculpate innocent suspects and incriminate the guilty. However, the side effects associated with investigation must be avoided.

Linking the suspects to the crime under investigation is such avoidance. The examples of side effects given by McCartney (2006:1) are wrongful arrests and miscarriage of justice. Consequently, comparisons of writing elements must take into consideration the influences of the pen movements preceding and succeeding them or such other circumstances as may be responsible for, or expected to produce, subtle or gross changes in execution.

According to James and Nordby (2003:169), individualisation is facilitated by comparison. The best example of a comparison is the individualisation of handwriting/signatures.

Both samples were asked to explain the individualisation process for handwriting. The samples could not explain the individualisation process. The question was put to an expert to get clarity to the process. The handwriting analyst (Participant 31, 2012), explains that the process takes place by comparing the unknown with the known when examining the handwriting documents. Whether the data is numerical, chemical, physical or graphical, the comparison is likely to be visual. Where populations of items are large, or the data to be considered is extensive, modern technology may be engaged to assist. The process involves three distinct steps or stages, although routines are so well ingrained into the practices of some disciplines that the existence of the three divisions and one's progress through them, often passes unrecognised. The stages are analysis or discriminating element determination, comparison and evaluation.

The task of comparison, however, is more complex than it may seem to be. Handwriting comparison is subject to change under the influence of different writing circumstances and conditions. Moreover, any discriminating element of handwriting may be influenced by the particular letter designs and/or characters surrounding it. Consequently, comparisons of writing elements must take into consideration the influences of the pen movements proceeding and succeeding them, or such other circumstances as may be responsible for, or be expected to produce, subtle or gross changes in execution (Participant 15).

Only one participant was in agreement with the literature.

3.11 SUMMARY

Every crime should be managed in such a way that all physical evidence can be collected from it, in order to ensure successful prosecution and conviction (Bester & Rambujan, 2002:21). The primary requirement is that the integrity of

the samples must be kept intact through the maintenance of the chain of possession. The investigators must ensure that the investigation is done within the parameters of the law. The processing of the crime scene must be done in such a way that the integrity of the collected samples remains intact. This deals with how the samples should be collected and marked, packaged and preserved. Individualisation and the individualisation process are important, and is a valuable tool to link the suspect to a particular crime.

CHAPTER 4

FINDINGS AND RECOMMENDATIONS

4.1 INTRODUCTION

The researcher used handwriting as an individualisation technique in fraud investigation, the purpose being to see if it contains information that may be used to individualise the perpetrator. A fraudulent document or cheque is like an informer, because it contains much information with which most of the public are unfamiliar. For example, according to the Locard principle, without realising it a person leaves many traces on a cheque or document that may be used to identify, individualise and/or link that person. The process and the findings of this research have provided a window into investigation of a fraudulent document/cheque. The process of investigation requires the investigator to observe intensely, to question systematically, and to gather information, evaluate the information and eventually have proof of the identity of the perpetrator.

4.2 FINDINGS

At the beginning of the research, specific questions were developed to be researched. These research questions will now be addressed under 'primary findings'. Smaller issues arising from the research will be discussed under 'secondary findings'. Based on information from the literature, case studies and interviews, the following findings were made:

4.2.1. Primary Findings

The findings by the researcher regarding the research questions are addressed as primary findings. These primary findings are outlined as follows:

4.2.1.1 Research Question 1: "What is investigation?"

In this research, the researcher established, through interviews and the literature that 'investigation' refers to the examination searching, tracking and

gathering of factual information that answers questions or solves problems. The researcher concentrated on criminal investigation, which can be defined as the discovery of relevant facts, the making of inferences from these facts, the reconstruction of the crime scene, the identification and apprehension of the offender, and the preparation of the case for prosecution and trial of the suspect(s). The responses of the participants agreed with the literature, and it is clear that the participants knew what investigation is.

4.2.1.2. Research Question 2: "How can handwriting on a document assist to individualise a perpetrator?"

In this research, the researcher established by means of interviews and the literature, that handwriting can be utilised as an individualisation technique in the investigation of fraud. The researcher also established that handwriting specimens can be used to individualise a perpetrator. The participants were generally in agreement, and were familiar with some concepts, but the researcher had to interview a questioned document analyst to clarify some questions.

4.2.2 Secondary Findings

The following findings were made in terms of certain other relevant points that the researcher came upon during the research:

4.2.2.1. Objectives of investigation

- It has been established by the researcher that the objectives of investigation are identification of the crime committed, the gathering of evidence, the arrest of the criminal, the recovery of stolen property, and involvement in the prosecution process.
- All the participants understood the objectives of investigation. They all agreed that the objectives of investigation are to identify the crime, to gather evidence by taking statements from witnesses, and by preserving physical evidence found at the crime scene and dispatching

it in time for analysis, and also to identify and arrest the perpetrator and successfully prosecute him.

4.2.2.2 What is identification?

- The researcher established that identification concerns the identification of something or somebody belonging to a specific category. Through identification, witnesses and suspects, exhibits and evidence are identified.
- The viewpoint of the researcher is that ten participants from Sample A were confusing identification with individualisation. The other twenty participants knew what identification is, and were familiar with the concept of identification and most of the techniques thereof.

4.2.2.3 What are identification categories?

- The researcher established that one of the purposes of visiting the crime scene is to fulfil the action of identification. According to the literature, there are different categories of identification, such as situation identification, witness identification, victim identification, imprint identification, origin identification, action identification, culprit identification and cumulative identification.
- All the participants knew what the identification categories are, and the importance thereof.

4.2.2.4 What is the meaning of fraud?

- The researcher established that fraud is the unlawful and intentional making of a false cheque/document which causes actual or potential prejudice to another person. The elements of fraud must be present – namely, misrepresentation, prejudice, unlawfulness and intention.
- All the participants have knowledge of what fraud is.

4.2.2.5 What is evidence?

- Evidence is anything that lends itself logically to prove or disprove a fact at issue in a judicial case or controversy. A document/cheque can

be physical evidence if it is used to prove a crime. It was concluded that evidence must be presented in court to prove the case. It is important that the investigator keeps this in mind during the whole investigation process, because that has to be the ultimate goal: to submit evidence in court and establish the truth.

- The participants understood what evidence is, and that it plays an important role in the investigation process.

4.2.2.6 Meaning of chain of possession

- The researcher established that the chain of possession is an admissibility requirement for all types of evidence – particularly, disputed evidence. Du Preez (1996:3) submits that the relevant information must be collected and preserved in such a way that its legal integrity is maintained.
- All the participants had a general understanding of the importance of the chain of possession.

4.2.2.7 Handwriting specimen

- 'Handwriting specimen' can be defined as a condensed and compact set of authentic specimens which, if adequate and proper, should contain a true cross section of the material from a known source. According to handwriting standards, handwriting samples can reveal how a person writes.
- Handwriting specimens fall into two categories: "requested" specimens and "collected" specimens.
- Not all the participants were clear as to what a handwriting specimen is. The viewpoints of the participants make it clear that there is a lack of experience on their part. Only twelve participants had ever obtained handwriting specimens, and eighteen participants had never obtained handwriting specimens for individualising purposes.

4.2.2.8 Standards for handwriting comparison

- The researcher established that requested and collected specimens are required for handwriting and signature comparison, to be able to link the perpetrator to the crime.
- The responses of the twenty five participants and the literature were in line with each other, and the participants understood the concept. Only five of the participants could not answer the question, due to a lack of experience.

4.2.2.9 Procedure for obtaining handwriting specimens

- According to Section 37(1)(c) of the Criminal Procedure Act, any police official may take such steps as they may deem necessary, in order to ascertain whether the body of a person has any mark, characteristic or distinguishing feature or shows any condition or appearance;
- The Sample A participants' responses to the question, was that twelve participants had obtained handwriting specimens to be analysed. Three participants said 'no', because they had never dealt with such cases where there was a need to obtain handwriting specimens. The participants of Sample B's response included three participants who said 'yes', when they worked for the SAPS, and twelve participants who said 'no', they had never obtained handwriting specimens.

The procedure is as follows:

- Do not allow the writer to see the questioned writing. Make sure that they write with the same writing style, same writing instrument and document. For requested specimens 15-20 samples on separate slips of paper at different speed in different positions. For collected specimens 10 samples relative to date of question.
- It is clear that there was a lack of experience and knowledge.

4.2.2.10 What is individualisation?

- The researcher established that individualisation involves comparison, usually of disputed objects found at the crime scene, with one known origin obtained.

- Individualisation refers to the demonstration that a particular sample is unique, even among members of the same class.
- All the participants had an understanding of what individualisation means.

4.2.2.11 Handwriting individualisation process

- The researcher established that the process takes place by comparing the unknown with the known, when examining the handwriting documents.
- The process involves three distinct steps or stages, although routines are so well ingrained into the practices of some disciplines that the existence of the three divisions and one's progress through them often passes unrecognised. The stages are analysis or discriminating element determination, comparison and evaluation.
- Firstly the unknown item and the known item must by analysis, examine, or study, be reduced to the discriminating elements.
- Secondly the discriminating elements of the unknown must be compared with those known specimens.
- Lastly will the similarities or dissimilarities in discriminating elements will have a certain value for the discriminating purposes determined by their clause, likelihood of occurrence.
- The participants could not answer this question and the researcher interviewed a questioned document analyst to explain the handwriting individualisation process as follows:

4.3 RECOMMENDATIONS

At the beginning of this research it was stated that the set purpose was to develop good practice, and to empower those involved in investigations. This can only be achieved if investigators have sufficient knowledge, as well as a proper understanding, of what they are investigating.

In this research, a variety of concepts, based on the research questions and the aims, were discussed. On some of the concepts not much literature was

available, and, partly due to that, there is a lack of understanding of individualisation techniques, and the procedures to obtain handwriting for analysis among investigators, which has serious implications for investigation.

'It is recommended, for clarity and sufficiency, that more research is needed on the following:'

- A handwriting specimen as an individualisation technique, and the procedures to obtain handwriting for analysis
- The standards for handwriting comparison
- The individualisation process for handwriting
- Procedures for obtaining handwriting specimens for individualisation purposes

The researcher has established that there is a lack of knowledge, due to insufficient training, or no training, of investigators in different aspects of obtaining handwriting for analysis addressed in this research. It is therefore recommended that the following topics be incorporated in training curricula, whether in basic or in-service training:

- 'Handwriting specimen' as an individualisation technique and the procedures to obtain handwriting for analysis.
- The standards for handwriting comparison
- The individualisation process for handwriting
- Procedures for obtaining handwriting specimen for individualisation purposes.

4.4 CONCLUSION

To resolve any unlawful deed, it is important that investigators should enhance their investigation skills and use the best and most effective investigation methods and techniques available. Given that forensic investigation has evolved very rapidly in recent times and become more closely based on scientific concepts, it is vital to evaluate the education and training given to crime scene investigators (Horswell, 2004:57).

The design and methodology of the research project have addressed the research questions, and show that there is a definite process which should be followed in using handwriting as an individualisation technique in fraud investigation. The researcher hopes that this research will empower investigators with knowledge as it has empowered her. Furthermore, it is extremely important that all members of the criminal justice system involved in investigation of crime, and with the collection of crime information, receive proper training. **“Effective investigators obtain and retain information, apply technical knowledge, remain open minded, objective and logical”** (Bennett & Hess, 2004:25).

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INTERVIEW SCHEDULE (ATTACHMENT "A")

Handwriting as an individualisation technique in fraud investigation:

The aim of the research is to examine how handwriting can be utilised as an individualisation technique in fraud investigation.

The research questions of this research are the following:

- What are the different facets of investigation?
- How can handwriting on a document assist to individualise a perpetrator?

I give permission to be interviewed, and that the information I supply in the interview can be used in the research.

Section A: Historical Information

1. What is your full name?
2. Are you an investigator?
3. For how many years have you been involved in investigation?
4. In what crimes do you specialise?
5. How long have you been in this field?
6. Specify your tertiary qualifications.
7. Did you undergo any training in the investigation of crime?
8. Specify the training or experience referred to in question 8?
9. Did you receive any training in handwriting as an individualisation technique?

Section B: Investigation

10. Define "criminal investigation"?
11. What are the objectives of investigation?
12. What is identification?
13. What are the identification categories?
14. What is the meaning of fraud?

15. What is evidence?
16. What is the chain of custody?

Section C: Handwriting as an individualisation technique

in fraud Investigation

17. What is a handwriting specimen?
18. Have you ever obtained a handwriting specimen for analysis?
19. What standards are required for handwriting comparison?
20. How will you protect a disputed document for handwriting analysis?
21. How will you package a disputed document to avoid contamination?
22. How will you mark a disputed document?
23. What is individualisation?
24. Describe handwriting as an individualisation technique?
25. Explain the individualisation process for handwriting?

LETTER OF SOUTH AFRICAN POLICE SERVICE: (ANNEXURE 'A')

G.P.S. 002-0222

SAP 21

SUID-AFRIKAANSE POLISIEDIENS



SOUTH AFRICAN POLICE SERVICE

Privaatsak/Private Bag X84.

Reference Nr Verwysing	3/34/2
Navrae Enquiries	Col J Schnetler Lt Col GJ Joubert
Telefoon Telephone	012-393 3177 012-393 3118
Faksnommer Fax number	012-393 3178

STRATEGIC MANAGEMENT COMPONENT

HEAD OFFICE

PRETORIA

Ms Cyntia Aschendorf
SARS

**RE: RESEARCH REQUEST: HANDWRITING AS INDIVIDUALIZATION TECHNIQUE IN
FRAUD INVESTIGATION : MASTERS IN FORENSIC INVESTIGATION: UNISA**

1. Our earlier telephonic conversation regarding your research refers.
2. After perusal of your research proposal by Col Johan Schnetler (Section Head Strategic Research) and myself, it was decided to grant you permission to conduct the necessary interviews with SAPS members as indicated in your proposal.
3. I hereby wish you all the best with your research study.

Kind regards

.....LT-COL
f/SECTION HEAD: STRATEGIC RESEARCH
GJ JOUBERT

Date 2012-11-30

LETTER OF SOUTH AFRICAN REVENUE SERVICE: (ANNEXURE "B")



**INTEROFFICE MEMORANDUM
REQUEST PERMISSION TO CONDUCT INTERVIEWS IN SARS**

TO	Nomkhosi Kunene	CC	Jeanette Mathabathe
FROM	Cynthia Aschendorf	REFERENCE	<ul style="list-style-type: none">• M-Tech Forensic
TEL NUMBER	(011) 602 3089	DATE	<ul style="list-style-type: none">• 28 June 2012
PRIORITY			
SUBJECT	REQUEST PERMISSION TO CONDUCT INTERVIEWS IN SARS		
RECOMMENDATION			

Forwarded to you for:

- Approval
 For Your Records
 Action as required

- Verification
 Information
 Proof Reading

On completion please forward to:

- Sender Other

Comments:

REQUEST PERMISSION TO CONDUCT INTERVIEWS IN SARS

REQUEST FOR PERMISSION TO CONDUCT INTERVIEWS WITHIN SARS

I am currently busy with my M-Tech Forensic Investigation with UNISA. The purpose of this letter is to seek permission from the South African Revenue Services to conduct interviews with criminal investigators as part of the requirements to complete my Master Degree in Forensic Investigation.

The aim of the research is to establish facts, gather information and data, and to determine whether there are interesting patterns in data. The research also aims to examine how handwriting can be utilized as an individualisation technique in fraud investigation and to individualise suspects.

The purpose of the research is:

- To arrive at recommendations for good practice, based on new information found that will address the problem and enhance the investigators, if applied.
- To empower investigators in performing investigations.

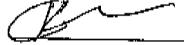
The researcher hopes to give lectures to the investigators in the future, and to publish an article which could assist in empowering them to improve their performance

The researcher attaches the approved proposal and interview schedule hereto. Kindly grant permission for this study to be conducted within SARS at Enforcement Investigations: CI division located in the Gauteng Region - Johannesburg, Pretoria and Alberton areas.

Verbal permission was granted during December 2009 / January 2010 from two managers but they are no longer in our department and written permission was never granted.



Requestor: Cynthia Aschendorf



Recommend by:

Nomkhosi Kunene



Supported By:
Adele Naude



Supported by:
Xolisile Mabuza



Approval by Group executive:
Godfrey Baloyi