

Forensic Documents Examination: A Rescue Mission to Obviate a Catastrophic Extinction

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Abstract:- This research study critically investigates a steep decline of forensic exhibits received by the Forensic Science Laboratory (FSL) with specific focus to the Questioned Documents Section (QDS). The QDS is responsible for the forensic examination of forensic evidence received, with a view to determine the authenticity and the authorship as it may be requested by the client. Over a period of six (6) calendar years (from 2018 to 2023), the QDS has experienced a precipitous decline in a quantity of cases that were received for forensic examination. This is in contrast to the increase in fraud cases reported during the period under review, and a general increase of crime in South Africa.

This research study aims to critically analyse the decline of forensic exhibits received by the FSL-QDS and to identify possible causes and the reasons for the decline of cases received, with a view to make practical and implementable recommendations that will assist in addressing the precipitous decline of forensic exhibits received by the QDS. The identified steep decline of cases received by the QDS has the potential to threaten the existence and relevance of the QDS as an important role-player in the fight against crime through forensic examination of questioned documents as required and regulated by law.

QDS is a forensic discipline within the FSL, of which the FSL is a component of the Forensic Services of the South African Police Service (SAPS). The Forensic Services was merged with the detective services to form one division known as Detective and Forensic Services (DFS). The FSL is a legal statute, which draws its mandate from the section 205 (3) of the Constitution of South Africa, which postulate, “the objects of the police service are to prevent, combat and investigate crime, to maintain public order, to protect and secure the inhabitants of the Republic and their property, and to uphold and enforce the law.

This research study focuses on the QDS, which has significantly been affected by a low number of forensic exhibits received that resulted in amongst others, the under-utilisation of the available human resources. A causal relationship between the steep decline of cases received by the FSL-QDS and the identified root causes was successfully and convincingly identified (Bless & Higson-Smith, 2000:40).

A correlation was established between the decline of forensic exhibits received and finalised by the FSL-QDS and the increasingly development of forensic departments within various private and government sectors, which perform similar forensic services as the QDS of the FSL. These services are performed with an improved turn-around time and efficiency as compared to that of the QDS. The evolving digital technology in the production of documents was also identified as a contributing factor to the problem.

➤ *Relevance:*

This study is relevant as it addresses current phenomenon that is plaguing the QDS, and threatens its relevance and existence. Although the decline of cases received by QDS nationally is of great concern, no study was conducted to determine the root cause and to put measures in place to curb the detrimental decline of cases received. This study provides empirical evidence pertaining to the decline of cases received by QDS, and further makes practical recommendations that are targeted at flattening the curve of the decline of cases received. The recommendations further aim to increase the utilisation of the QDS services by the investigating officers in the fight against crime. In addition, this study will elevate the value of QDS as a scientific entity that plays a pivotal role within Criminal Justice System (CJS).

➤ *Target Audience:*

The entire Criminal Justice System (CJS) cluster and its partners are the target audience for this research. This includes the South African Police Service, the judiciary, government departments, private sectors, academics, researchers, law enforcement agencies, communities and societies, and national and the global community. This research study is not only targeted to a specific group of people, but to the public at large. Research publication is one of the efficient way to disseminate information to all interested audiences, and to contribute to the body of knowledge in the scientific fraternity.

➤ *Originality:*

This scientific research study contains the original research output, which was not researched before. The research problem identified was discovered because of the newly identified phenomenon in the QDS, and there is no known research article or book published on the topic

under research. The scientific contribution to the field of science will be new and unique of its kind.

Keywords:- Forensic exhibits, decline of cases, Forensic Science, forensic exhibits, Forensic Science Laboratory, Questioned (disputed) Documents, Criminal Justice System, Forensic Awareness, digital technology, Electronic or digital signatures, Artificial Intelligence, Digitally Acquired Signatures, Extinction, Catastrophe, Documents Examination, Rescue Mission, Pluralism, Obviate.

I. INTRODUCTION

The Questioned Documents Section (QDS) is a specialised unit within the Forensic Science Laboratory (FSL) and a legal statute, which is regulated by law in terms of section 212 (4) (a) (vi) of the Criminal Procedure Act (Act 51 of 1977). The forensic examination of disputed documents is the mandate of the QDS of the FSL within Forensic Services, an entity of the SAPS. Amongst the cases received and analysed by QDS are cases with exhibits pertaining to:

- Handwriting and signatures,
- Writing instruments and base materials,
- Stamp impressions and indentations
- Type-writing and computer generated documents,
- Printing processes, and
- Documents with face value.

The above-mentioned cases are, in the main, submitted by the investigating officers and other institutions to the QDS for the forensic examination to be conducted with a view to determine their authenticity and authorship. In addition, the

QDS provides workshops, presentations, career exhibitions, and consultations with the clients and other interested parties. These additional services provided by the QDS are critical in the marketing of the services rendered by the QDS, and to create a rapport with the stakeholders. Furthermore, the additional services serve as a platform in which the clients get to make contributions pertaining to their expectation from the QDS and to make inputs that will add value in the improved service delivery by QDS to its clients, and strengthen cooperation.

A forensic report is issued by the QDS examiner bearing report findings made, pertaining to the exhibits received and analysed within a laboratory environment. The decline of forensic exhibits received and analysed by the QDS is a course for concern, which requires special attention to determine the root cause and to establish measures to encourage clients to make use of the QDS services as a critical component of the specialised investigation aid.

Over the years, the QDS has experienced a worrying decline of cases received for examination. This study focused on the statistics for the past six years, which provide a pictorial view of the steep decline of cases received by the QDS – a situation that is neither ideal, nor acceptable.

The statistics drawn from the computer system of the FSL (also referred to as FSL administration system), depict a steep decline of forensic exhibits received by the QDS of the FSL.

The table below illustrates a decline of cases received nationally by the QDS in the period of six years:

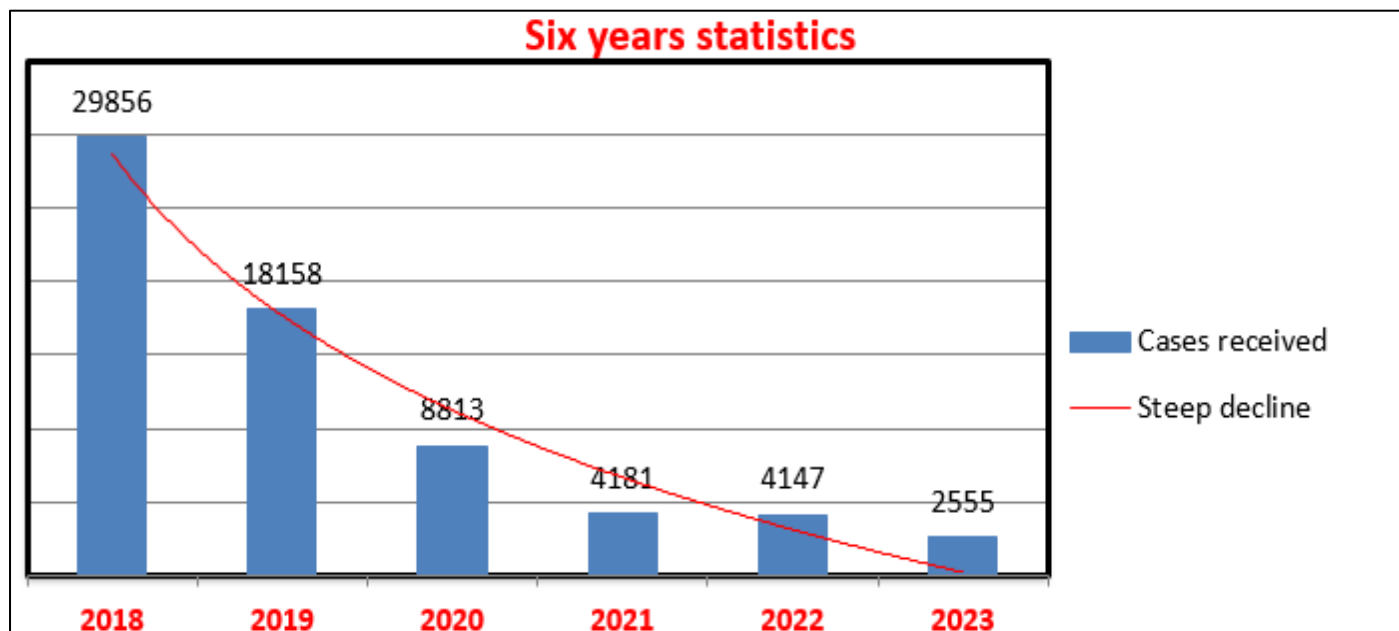


Fig 1: A Steep Decline of Cases at QDS
Source: FSL System

This table clearly depicts a downward trajectory of cases, which if not attended to as a matter of urgency, the QDS is likely heading for a catastrophic extinction – an

outcome that is nether favourable nor desirable in the interest of justice and service delivery. It is for this reason that this scientific study is undertaken as a rescue mission to obviate a

catastrophic extinction of forensic documents examination in South Africa, especially in the QDS. This study provides practical and implementable recommendations that serve as the basis for a rescue mission that will turn the current undesirable situation around, with a view to keep the QDS relevant as a key strategic role player in the fight against crime in South Africa, Africa, and the global community.

II. PROBLEM STATEMENT

The decline of cases received by the QDS for examination is a critical challenge that has the potential to render the QDS irrelevant and extinct. The QDS exist to receive and examine forensic evidence pertaining to the disputed documents as required by the law. The identified decline of cases received by the QDS threatens the section's legal mandate - of serving as an investigating aid by analysing physical evidence submitted by the clients with a view to make meaningful contribution in the CJS.

QDS cases have been on a steep decline for years, and nothing substantial was done to address this concerning phenomenon. The current intervention of conducting forensic awareness to the investigating officers and other role players does not seem to be effective – in that, no positive results were identified pertaining to the increase of forensic exhibits received by the QDS. The decline of cases received by the QDS keeps worsening despite the interventions that are undertaken consistently. The evaluation of the effectiveness of the forensic awareness conducted by quality management does not seem to be effective, and if such is done, no meaningful intervention is undertaken as the status quo remains – cases received by the QDS keep declining in an alarming rate.

With the identified research problem and lack of proper and effective intervention undertaken to address the decline of cases received by the QDS, this study aims to provide practical and effective solutions that will flatten the curve and increase the quantity of cases received by the QDS. In addition, the increased volume in a number of cases received by QDS for forensic examination will potentially assist to resolve the crime in South Africa, especially crimes pertaining to fraud, uttering, forgery, and counterfeiting of documents with face value.

This research study will attract the attention of the top management of the QDS and the FSL, and reinvigorate their commitment to rescue the situation. Addressing the identified problem requires top-management intervention because resources will be required to undertake the project that will turn the situation around and yield positive and measurable results. A mere verbal utterance by top-management is not enough to address the decline of cases received by the QDS, but availing resources is key.

The resources required to effectively address the steep decline of cases received by the QDS include personnel, vehicles and finance. It will require committed and dedicated personnel to embark on a massive drive to conduct workshops to the potential clients of QDS, and conduct targeted

workshops and presentations aimed at educating the clients of the critical services provided by the QDS and the importance of making use of QDS expertise in the course of crime investigation. This project will have to cater for all potential clients, both far and near, and vehicles will be required to travel for this purpose. Money will play a critical role in the project, as other resources must be procured, including banners, and other visual aid resources that assist in the workshops. Accommodation will need to be paid, for the members to sleep over, especially when conducting workshops to areas that are far for travelling in a day.

III. HISTORICAL OVERVIEW

It is human nature to want to know, and the process that follows in wanting to know amounts to investigation. Human beings have been doing investigation since time in memorial. Although the investigation process was not formalised by then, human beings were seeking to find the truth and what happened using the process, which is commonly known as an investigation in today's terminology. It is based on the background that one can say that investigation, including documents examination started as long as the existence of humankind. It is generally in every person's natural reaction to be inquisitive and to have a need to find out what is happening or what happened. By definition, finding out what happened is called investigation. Sources of records keeping, also known as documents, were not spared from scrutiny during the process of investigation during the ancient times. In this context, a document is defined as any item that contains written, printed, or records that provides information that serve as evidential proof.

The science of Questioned Documents examination was made popular by Albert Osborn in the United States of America (USA), who is considered by some as the father of questioned documents. Although disputes arose pertaining to documents before Osborn, there was no formal or well-known and published process of documents examination until Albert Osborn published a book titled "Questioned Documents" in 1910. Albert Osborn was born in America in 1858, and died in the year 1946. During his span of life, Albert Osborn practiced as a Forensic Documents Examiner (FDE), a researcher and an author. Albert Osborn also founded the American Association of Questioned Documents Examiners (AAFDE).

Forensic documents examination entails two main aspects; namely the recovery and authenticity. Recovery entails a process of recovering and restoring the disputed documents to its original form or to a form from which evidence can be extracted. Authenticity involves the process of forensic documents examination to determine its originality, or the authenticity of its content (Lewis, 2005: v).

The science of forensic documents examination has since evolved, with interest places on the examination of handwriting and signatures – an examination discipline that has seen a lot of exposure in terms of books and research articles publication. In part, the highly publicised research on the examination of handwriting and signatures entails its

reliability and validity. The other types of forensic documents examinations have not been widely scrutinised, mainly because of their empirical approach in the examination process, which is beyond reproach. The other documents examination facets are generally not contested, when it comes to the examination process and findings made, and are in large considered scientific.

The forensic examination of banknotes, identity documents, certificates, stamps and stamp impressions just to name a few, form a large number of exhibits received for analysis at QDS. In addition, the examination of coin, ink and dye, paper and other writing substrates form part of the variety of physical evidence received and examined. Although a lot still needs to be done regarding ink dating analysis, there is a remarkable progress pertaining to the examination of ink and dye at QDS.

IV. RESEARCH AIM AND OBJECTIVES

This research aims to evaluate the decline of cases received by FSL QDS and provide effective and practical recommendations to address the identified research problem. The aim of each study is to provide the direction with which the study takes and assist in ensuring that the research project does not veer off course. The research objectives on the other hand, are considered as the steps that will be taken to reach the intended destination – the research aim. For the purpose of this research study, the following research objectives were formulated:

- To identify the contributing factors in the decline of cases received by QDS;
- To determine the interventions made by the top management in addressing the identified problem;
- To evaluate the effectiveness of the interventions made, and
- To provide practical recommendations to address the decline of case received by the QDS.

The above research aim and the objectives provide a framework that guides the research to ensure that the intended goal is achieved. The primary goal of this research is to curb the decline of cases received by QDS.

To achieve this goal, the following primary research questions guide the trajectory of this research study:

- What is the root cause of the decline of forensic exhibits received by the FSL-QDS?
- What should be done to remedy the identified challenges and increase the optimal utilisation of QDS services by its clients?

V. RESEARCH METHODOLOGY

With a view to gather more information that will assist in addressing the research topic, research data was collected by means of perusing relevant literatures, including but not limited to research methodology books, legal books and journals, personal interviews, and information derived from

the FSL system. The information collected was used to assist in providing answers to the research questions, which guide this research study. In addition, personal knowledge was used to augment the information required to achieve the research aim.

Personal knowledge and experience could be detrimental to the trajectory and the outcome of the study if special care is not taken to be objective, ethical, and domain conscious. The researcher ensured that personal knowledge and experience in the subject matter does not overshadow and replace objective and scientific ethics. This was done by making sure that the research is based on verifiable information, and not driven by preconceived outcome – while ensuring reliability and validity. Cognisance was taken to ensure domain specific consideration in applying personal knowledge and experience.

Denscombe (2007:173) postulates that interviews are an attractive proposition for researchers. It is for this reason that this research study made use of interviews as one of the means to gather data from relevant persons with whom their contribution could assist in addressing the identified challenges, and assist in answering the research questions. Interviews are believed to be effective and efficient in yielding the highest and best responses, thus providing maximum data required in addressing the topic under research (Leedy & Ormrod, 2005:184).

Literature review is one of the most popular means of collecting data and relevant information. There are voluminous literature available in the libraries and digital platform, however, searching for relevant literature requires one who has a well-defined research aim and objectives. Literature review is considered as a critical skill in academia – as it takes a high level of intelligence to know what to look for, where to look and how to select the best and relevant data for a particular research project.

In the current twenty-first century, information is widely available and widely accessible in the digital platform. However, not every information on digital space is legitimate and reliable. For this research, information from the digital platform was trawled through with extreme caution not to fall prey for misleading information. Unverified information was not considered for this research and only peer reviewed and verifiable information was considered.

VI. RESEARCH ETHICS

A scientific research must be alive to the ethical considerations that are involved in conducting a research study. In the event that the researcher conducts research within the environment in which they work, it is essential to consider domain specific ethical consideration. Subsequently, the research ethics in this study are divided into two, namely: generic ethical considerations, and domain specific ethical consideration. The following ethics were paramount in this research:

➤ *Generic Ethical Considerations*

- **Mutualism:** The research study was conducted with a view to mutually benefit all parties, including the QDS. This study did not only take into consideration the need for the researcher to publish, but considered the importance of the research findings and the recommendations to be beneficial to the QDS, and all interested and affected parties.
- **Integrity:** Special care was taken to ensure that data is collected and analysed in a fair and objective manner. No preconceived outcome were perpetuated in suppression of the truth. The principle of scientific centralism was maintained throughout the research.
- **Authenticity:** This research is the original work and product of the researcher and was not submitted to any journal or academic institution for publication. The researcher was creative in developing the research study with a view to address the worrying phenomenon of the decline of cases received by the QDS for examination.
- **Quality assurance:** This research conforms to the quality standards as outlined in International Journal of Innovative Science and Research Technology (IJISRT) among other accredited and recognised journals, and the scientific research in the academic fraternity. The quality output will contribute in the scientific body of knowledge of Forensic Science and Criminal Justice.
- **Financial Influence:** the author received no financial support to conduct this research, and there is no influence emanating from financial support to unduly and unreasonably ignore other facts while persuading a specific funded agenda.

➤ *Domain Specific Ethical Considerations*

Unlike the general ethical considerations, the domain specific ethical considerations relate to ethical behaviour that a researcher had to demonstrate pertaining to a particular study based on the position held and proximity to the subject under research. As a result, the following domain specific ethical considerations were observed:

- **Victimisation:** The researcher ensured that there is no victimisation of members of the FSL QDS, who opted not to participate in the research study. The researcher ensured that the position of a manager held at the time of research study was not in any way used as a coercive tool.
- **Confidentiality:** A high confidentiality level was maintained whereby information received from the participants pertaining to the subject was not used prejudicial to the participants, but was treated as data for

the purposes of the research study. No confidential information extracted from the FSL system and other official sources used were made public unduly.

- **Privacy:** The researcher ensured that those who voluntarily shared information remain protected by ensuring their privacy. In addition to the ethical considerations, it is a criminal offence in South African to disclose personal information and details without their explicit consent in terms of Protection of Personal Information Act 4 of 2013.
- **Honesty:** The researcher did not use the proximity to members and information as a reason not to conduct full interviews and documents analysis. A thorough interview with participants was conducted and documents were thoroughly perused to gain more insight into their content as it relates to the research study.
- **Neutrality:** Although the researcher had certain level of knowledge and information pertaining to the research topic, neutrality was key to ensure that more and new authentic information is derived from both the interviews and literature study.
- **Africanisation:** This research study was conducted in the Continent of Africa. The participants in this study provided knowledge, experiences, and views based on the South African practices. Africanisation does not mean that international practices are not recognised, but the promotion of African knowledge and practices, and ensuring that African knowledge and practices get global recognition and exposure as an equal partner in global scientific contribution. Africa is no longer a consumer of scientific products, but an equal partner in scientific research innovation and contribution to the global scientific community.

VII. RESEARCH RESULTS

The research results emanating from this study are outlined in this segment of the research. For the purposes of this research study, this study presents the research results in a form of a table for the purposes of enhanced and easy understanding. It is an acceptable phenomenon to present scientific research findings in a table format. This practice takes into cognisance different audiences who prefer different ways of reading for comprehension. The usage of a table accommodates those who prefer tables to improve their understanding, while ensuring that textual information is maintained for a different cohort (Bless & Higson-Smith, 2000:143). The results of this study are hereby presented below:

Table 1 Research Questions and Summary of Key Findings

What is the root cause of the decline of forensic exhibits received by the FSL-QDS?
Mushrooming of similar services as provided by the FSL-QDS
Prolonged turn-around time in finalisation of forensic examination of submitted exhibits
Ambiguous and superfluous reporting of findings
Potential clients are less informed of the services provided by the QDS
QDS offices not easily accessible to all potential clients
The QDS is not proactive in the marketing of its services to the potential clients
Lack of synergy within the various divisions of the SAPS & government departments

QDS is not evolving in the pace that the world of technology is evolving
What should be done to remedy the identified challenges and increase the optimal utilisation of QDS services by its clients?
Review and reduce the applicable turn-around time on the finalisation of cases
Conduct QDS targeted forensic workshops
Provide easy to understand and unambiguous forensic report findings
Decentralise QDS services to the ports of entry and other Provinces
Introduce stand-by services for attending relevant crime scenes and timely assistance and advise to the investigation team after hours
Create facilities for a mobile forensic QDS services to frontline police officers during special operations
Develop and conduct presentation workshops aimed at various stakeholders, the current one-size fits all presentations for all audience is not effective.
Enhance co-operation between various divisions and components of the SAPS and government departments
QDS should swiftly evolve to create technical expertise and capacity to examine digital documents, signatures and writing

Source: Author – Dr. RC Rasekoalo (PhD)

VIII. THEORETICAL AND CONCEPTUAL FRAMEWORK

Questioned documents examination is a diverse forensic discipline, which is evolving as the world evolves and embraces technology. The global transition into the digital world has a direct impact to documents examination – especially with the introduction of new terminologies emanating from the digital era. There are different views pertaining to what concepts are appropriate to identify the phenomenon derived from the introduction of digital technology in the field of forensic science. The science of questioned documents is embroiled in this debate pertaining to signatures and other documents with face value.

What was traditionally known as signature before the introduction of digital technology has the forensic scientists debating whether it should be called digital signature, electronic signature or biometric signature.

- **Electronic Signature:** This relates to the personalised writing by means of electronic instrument, aimed at identifying the author in a unique manner.
- **Digital signature:** Refers to personalised writing generated by means electronic device, which identifies an author in a unique manner.
- **Biometric Signature:** Can be described as the identification of an individual by means of unique biological features and compositions using a specialised technology.

The difference between electronic signature and digital signature are not far apart, and one may be forgiven for using both interchangeably. On the other hand, the term biometric involves biological features and characteristics that are used to identify an individual. Most common biometric digital technologies that identify an individual are the biometric fingerprint identification system, and face recognition technologies.

The forensic scientists, especially documents examiners are urged to focus their expertise on the contribution and enhancement of digital technology in the examination of physical exhibits with a view to provide much needed justice to the communities and victims of crime. The debate on the terminologies is negligible, and insignificant – and that

should not be allowed to overshadow and divert the attention of the forensic scientists from the important task of ensuring justice for all through science. As professionals, the forensic scientists should be cognisant of the system of **pluralism** – which takes into consideration that people are dynamic and have different views and understandings, which should be recognised and allowed to coexist in their diversity.

IX. DISCUSSION AND CRITICAL ANALYSIS

The QDS is responsible for the forensic examination of disputed documents within the Criminal Justice System of the Republic of South Africa. The mandate and the responsibility of the QDS to analyse disputed documents is a legal requirement in terms of section 212 of the CPA, Act 51 of 1977. Although the CPA mandates the QDS to conduct forensic examination of disputed documents, many government departments and private organisations have their own forensic departments that provide similar services. In other departments, the forensics is referred to as fraud department, risk departments, or integrity department. The duplication of services from departments of the same government is a clear indication of lack of synergy and poor organisational planning. These departments, together with other private organisations, all scramble and compete for the same clients.

Competition is good for business because the clients are spoiled for choice, and service providers always ensure that they review and improve their business strategy to lure customers. In a healthy and a competitive business arena, clients are always at the centre of service delivery, and businesses strive to offer the best quality service to the clients. In the case of forensic documents examination, one would expect government departments to compete with private sector and private individuals. However, there appears to have an inter-departmental competition in rendering similar services. Some government departments, such as home affairs have their own forensic (fraud) departments that conduct forensic examination on suspected fraudulent documents. If any department could have the capacity to conduct forensic analysis on the suspected fraudulent documents, the QDS will have no or little work to do.

The QDS has categorised the forensic exhibits received for forensic examination into three main categories, namely: routine cases, non-routine cases, and priority cases.

➤ *Routine Cases*

These cases are non-complex in nature and usually take less time to be completed. The routine cases are usually cases with single exhibits or less than ten, which mainly require a forensic examination to determine authenticity. These cases include exhibits such as bank notes, identity cards and books, passports, bankcards and gift cards, stamp impressions and indentations. The FSL has determined an examination turnaround time of up to 28 working days for these types of cases to be finalised. This period includes the time from receiving of the exhibits for forensic examination to the finalisation of the examination and issuing of a peer reviewed forensic report.

It can be argued that the turnaround time for this category of cases is too long. The argument takes into consideration that it is indicated that these category pertains to routine case, which are not complex in nature. The QDS should review this turnaround time from 28 to 5 working days. The shorter turnaround time would encourage QDS clients to utilise its services knowing that the turnaround time is shorter. Although there might be some cases that could potentially need more than 5 days to complete, the majority of cases will be finalised within the prescribed timeframe. The reduced turnaround time will boost the finalisation rate of cases in the shortest timeframe possible and improve client's confidence in the service provided by the FSL-QDS.

➤ *Non-Routine Cases*

The non-routine cases are exhibits that require complex examination process and usually take long to finalise. These cases include routine cases (as mentioned above) with more than 10 exhibits, as well as handwriting and signatures. Amongst the non-routine cases are exhibits that require the determination of authorship as usually applicable in the examination of handwriting and signatures. The stipulated turn-around time for these cases is set at a maximum of 75 working days.

Seventy-five (75) working days amounts to approximately four (4) calendar months. Four (4) months is a long time, considering that the clients submit cases to QDS for analysis hoping for a speedy resolution of the case at hand. Non-routing cases, which are considered complex should be finalised in twenty (20) working days, instead of seventy-five (75) working days as outlined in the official document of the FSL. Shorter turnaround time in the processing of forensic evidence increases confidence from the potential clients and promotes a healthy working relationship and cooperation between parties.

➤ *Priority Cases*

Priority Cases are defined as cases that have to be prioritised for court purposes or cases deemed by SAPS Senior Management as a priority (FSL business rules (FSL0001BR), 2018). The researcher, however, finds the first part of this definition problematic in that it refers to cases that

have to be prioritised for court purposes. Subsequently, the researcher submits that all cases have to be prioritised because all cases are submitted to the FSL for a reason, be it criminal, civil or any other purposes such as finding closure or uncovering the truth of what happened. If the definition as provided by FSL business rules is to go by, all cases under routine and non-routine should be treated as priority cases, because all cases submitted for analysis are meant for court purposes or other legally recognised forum. For this reason, this research finds that priority cases are matters given preference in terms of the examination based on their prominence, urgency, public interest, and in best the interest of justice – which implies that all cases are priority cases.

These are cases that are prioritised based on their urgency and public interest, and are usually prioritised on the request and directive of the head of the laboratory, Provincial or Divisional Commissioner, the Director of Public Prosecutions, the National Commissioner and the Minister, just to mention a few. Due to the urgency in which these cases are required to be finalised, the turn-around time is set at a maximum of 14 working days. The priority cases may include any of the exhibits classified as routine and non-routing cases.

With the revision of the turnaround time in the finalisation of routine cases and the non-routine cases, there would be no need to classify some cases as priority cases. The reality is that all cases are priority cases by those who reported such cases, and to categorise some cases as priority implies that other cases are not priority cases – and such categorisation is potentially offensive and discriminatory. It is, therefore recommended that the discriminatory classification of some cases as priority in the expense of others be reviewed and set aside. This submission is in line with the notion that all people are equal before the law, and justice is equally accessible by all without discrimination by means of race, gender, class, or otherwise.

Over the years, the world has experienced a high demand for the forensic examination of disputed documents. This is despite the digitisation of other services as the world evolves. Many countries still print documents with face value, including the bank notes, identity cards, certificates, travel documents, and bankcards. Furthermore, many handwritten documents are still produced from the institutions of education and other work environments. Although digitisation is evolving in the 21st century, such has not yet completely eradicated the manual handwritten text and signatures together with the paper based documents. Taking into consideration the current situation in the production of documents, one can submit that paper-based documents will be in existence for decades to come, and will most likely outlive all of us.

However, there has been a paradigm shift in the manner in which some documents are produced and issued. For example, the department of home affairs (in South Africa) has introduced the electronic visa system, which is aimed at creating an alternative to the traditional physical paper-based visa issued at the borders and other outlets. Similarly, many other private and government institutions (such as banks &

home affairs) have introduced digital signature pads where clients are required to sign.

The digital system of signing is different from the traditional pen-and-paper system, in that the signature is produced by means of a digital pen, which does not produce ink, and the writing base is a digital pad on which a signature is produced. This new development of technology calls for a paradigm shift in the manner in which forensic examination is concerned in order to cater for digital signatures and other digital innovations. The digital acquired signatures have a variety of names, depending on individual or organisational preference. Some prefer to call it biometric signatures, digitally acquired signatures, or digital signatures. Of paramount importance is that all these names refer to the new digital technology of making a signature, and the difference in name is insignificant, and adds no value to the scientific body knowledge in the examination of questioned documents.

The QDS is lacking behind in terms of creating the necessary capacity to examine such digital documents. With the evolving technology and the slow or no evolution on the side of QDS, some QDS clients resort to creating their own capacity to examine digital documents, which has a direct impact on the decline of cases submitted, received and examined by the QDS of the FSL in South Africa.

Subsequently, there has been a mushrooming of similar services from private and public sector that aims to internalise the forensic examination of documents based exhibits. These sectors include amongst others, the banking sectors, the insurance sectors, the retail sectors, and other government departments. These sectors have established the forensic departments within their systems, which are aimed at attending to similar cases as examined by the QDS, and thus reduce their reliance on the services of the FSL-QDS. Due to specialisation of the forensic documents examination, some of these sectors are recruiting trained members of the QDS to enhance their forensic capabilities.

The establishment of similar services as the QDS by the private and public sector has a direct impact on the decline of cases received by the FSL-QDS. One such institution is the South African Reserve Bank (SARB), which was one of the clients of the QDS. The SARB used to submit a high volume of forensic exhibits in the form of bank notes to the QDS for forensic examination. However, the SARB has since established their own forensic department, which examines the exhibits that would ordinarily be sent and analysed by the QDS.

These institutions also capitalised on the lengthy turn-around time by the FSL. With a view to be competitive and to reclaim its spot as the credible and formidable FSL, the FSL-QDS must review and adjust the turn-around time set, and make it attractive to its clients. The current 28 working days for the routine case, 75 working days for the non-routine cases and 14 working days for the priority cases appears to be too long for the clients.

The services of the QDS are not well marketed. The current forensic awareness system, which is inclusive of all sections of the FSL and managed by a component called Quality Management (QM) does not seem to be sufficient and effective in addressing the needs of disseminating enough and relevant information about QDS to its potential clients. The QDS needs to embark on a targeted forensic QDS workshop whereby enough time and focus will be spent with potential clients to market the services provided by the QDS. The QDS also need to be strategically places within the areas where it will be easily accessible and provide prompt assistance and forensic advice. This include decentralisation of QDS services to all port of entries in South Africa where in the main, travel documents are a major part of exhibits that may potentially require forensic examination.

In addition to the delays in the finalisation of cases, clients are often issued with an unambiguous forensic report finding. The forensic examination of handwriting and signatures by the QDS base their report findings on balance of probabilities. This means that the findings are based on personal opinion, and not verifiable and objective facts. The expression of opinion in the content of a forensic report issued in terms of section 212 of the CPA is not permissible by law. The forensic expert may express an opinion during court testimony on the behest of the court, not in the content of the forensic report.

With the possibility of receiving an expression of an opinion by the QDS forensic analysts, the investigating officer often opt not to utilise the disputed document evidence, but to concentrate on other available evidence at their disposal that will likely assist to solve crime under investigation. This leads to the QDS receiving less forensic exhibits for analyses.

Furthermore, the duplication of services appears to be taking place within various divisions and components of the SAPS. For example; on Monday the 18th of September 2023, an email was sent by the office of the divisional commissioner, technology management services (reference 19/4/56/1, dated 2023-09-13) to all SAPS email users for the request for nominations to attend the virtual adobe e-signature session scheduled for the 29th of September 2023. This is despite an approved handwriting and signature workshop that was in place on the day the email was sent.

The handwriting and signature workshop was held in Pretoria by the QDS, whose mandate of handwriting and signature examination (and other disputed documents) rests with. In addition, the QDS was, during the period in question, discussing and contemplating on the implementation of e-signature workshop and examination by forensic analysts of the FSL-QDS. This further displays lack of synergy between various divisions of the SAPS, thus leading to duplicate services provided, instead of capacitating the already existing section that deals with disputed documents, the QDS.

Currently, the QDS services are not centralised to any port of entry in South Africa, be it airports, harbours, and land ports of entry. The QDS is also not decentralised to all the

provinces in South Africa. Only four QDS laboratories are available in the country, situated in the Provinces of Gauteng, Eastern Cape, Western Cape and KwaZulu Natal. This means that only four Provinces out of nine have QDS offices in their jurisdiction.

Despite the evolving technology in the world and the introduction of digital documents, such as digital visa and digital passports, and the use of digital technologies to produce digital signatures, the QDS is still conducting the forensic examination of exhibits the traditional way. The traditional process is whereby a forensic analyst physically conducts the analysis, with the reliance of training and expertise to make observations and findings. It is important to indicate that the training offered to the forensic documents examiners in South Africa is sufficient for the examination of physical evidence received.

However, there is a need to evolve in line with the global trends and introduce digital technologies that will enable the QDS to examine electronic documents. The criminal network is already a step ahead in this regard, in that criminals have started to create false digital documents that will only be detected and analysed effectively by means of digital technology. Until the QDS introduces digital technology, the criminal syndicate will have an upper hand, where cases involving digital documents will not be analysed by QDS.

Some information is captured by means of digital technologies, this include some contracts that are entered into via telecommunications; where information is uttered verbally and captured electronically. This process makes use of voice recognition and verification of information through what is considered as personal security questions. Signatures in recent times are replaced by biometric verification – whereby instead of signing using a pen and paper, a fingerprint is used to authenticate the user. In addition, the One Time Password (OTP) is sent electronically to a mobile device of the client on a registered telephone number. OTP is another means of ensuring the security of information and verification of the client. These technological developments have, by large, replaced the use of pen and paper, thus contributing to the reduction of paper based documents.

In addition, the airlines and other modes of transport, such as bus companies, train services, have introduced digital ticket system, which replaces the physical tickets made of paper. This development requires QDS to embrace digital technology for it to be capable to examine these exhibits. At the moment, QDS does not have the capabilities to receive and examined digital exhibits because it does not have relevant digital technologies. Subsequently, the cases received by QDS will continue to decline as the world embraces technology.

Chequebooks and cash deposit slips were faced out in modern banking system. Technology is taking centre stage in a day-to-day business. It is because of these developments that QDS must evolve and digitise its services and the manner in which it conduct forensic examination. It is worth noting that the FSL is making some strides in digitising and making

use of technology. One can make mention of the Integrated Case Docket Management System (ICDMS). The ICDMS is a technology that is aimed to transmit the forensic reports electronically to the Investigating Officers instead of the I/O collecting a physical paper based forensic report.

The introduction of technology in inevitable, and it is part of our current modern lives and it is likely to evolve further. The QDS and other service providers have limited option, but to evolve or perish. The print media such as magazines and newspapers have seen a significant decline in business as consumers make use of digital technology to access news and information. Some of the newspaper outlet such as Sunday world and Sunday times in South Africa, have adapted to the developing trends in the world – by introducing digital news platforms in order to maintain their relevance and to remain profitable.

X. RESEARCH FINDINGS

This section is where the writer presents the research findings. The research should remain as neutral and objective as possible. Avoid being bogged into unnecessary details and only focus on the facts. Hamp-Lyons & Heasley (2006:112) indicate that the function of the result section is to provide the reader with a clear description of the research findings, based on the data that constitute trends. This research made the following key empirical findings:

- *“What is the Root Cause of the Decline of Forensic Exhibits Received by the FSL-QDS?”*
- **Duplicate services:** The QDS used to receive many cases from the cash centres, the banks, and the SARB. Recently, the SARB has capacitated its forensic department and recruited some forensic documents examiners from the QDS to conduct forensic examination of exhibits. This resulted in the SARB no longer sending exhibits to the QDS for analyses. In addition, the SARB attend to crime scenes whereby South African bank notes are involved. Subsequently, the SARB’s decision not to send cases to the QDS has contributed significantly to the decline of cases received for examination.
- **Poor marketing strategies:** The current forensic awareness programmes are not effective. The potential QDS clients remain less informed about the existence and the services provided by QDS. Despite the ongoing forensic awareness programmes that are undertaken, QDS continues to experience a steep decline in cases received for examination. The QDS has not sufficiently decentralised its services in South Africa. In a Country with 9 provinces and approximately 72 port of entries, the QDS is only having four offices, which is not proportionate to the number of port of entries and the provinces. A sizable number of fraudulent documents are used on daily basis at the ports of entries globally, and South Africa is no exception. Decentralising QDS services will improve accessibility and serve as a marketing strategy – taking into consideration that the buildings will be branded for visibility.

- **Resistance to change:** The FSL QDS has been too slow to embrace change, especially digital technologies. The digital technologies have been in use for decades internationally, but is yet to be fully embraced and utilised at QDS. The introduction of digital signatures, digital visas, and other digital documents have been in use for decades. Despite these developments, the QDS has not introduced digital technology to conduct forensic examination of such cases, which means that such cases cannot be received by QDS for examination – thus contributing to a decline of cases received for examination. This tardiness in embracing digital technology amounts to resistance to change.

➤ *“What should be done to Remedy the Identified Challenges and Increase the Optimal Utilisation of QDS Services by its Clients?”*

- **Decentralisation:** The QDS needs to take a deliberate and intentional decision to decentralise its services all over the Country. The limited QDS offices in South Africa makes it difficult for its clients to access the much-needed services. South Africa is one of the Countries with the highest number of reported crimes, with documents fraud being one of the highly reported criminality. With a high number of illegal migrants in the Country, there is a high likelihood that documents fraud is rife in South Africa. Decentralising QDS services will result in high number of suspected fraudulent documents submitted to QDS for examination – thus increasing the number of cases.
- **Targeted workshops:** The QDS must embark on targeted workshops campaign, which will focus the potential QDS clients, such as the investigating officers, Directorate for Priority Crimes Investigation (as known as the Hawks), the Special Investigation Unit (SIU), Directorate for Public Prosecution (DPP), Border Management Authority (BMA), Private Security Industry Regulatory Authority (PSIRA), and other law enforcement urgencies. The targeted workshops must include the police stations; especially the exhibits store (SAPS 13) personnel and frontline workers at the ports of entries.
- **Digitisation:** The world is evolving, and more Countries are introducing digital technology that is replacing the old paper based documents. The QDS needs to evolve and digitise its services to enable it to efficiently conduct forensic examination of digital documents. Technology is efficient and effective in the examination of forensic exhibits, and should be introduced do deal with the current trends of digital technology that is becoming the new normal in our day-to-day lives.

XI. PRACTICAL RECOMMENDATIONS

The value of a scientific research article is measured by its ability to produce empirical evidence to support that the problem exist, and most importantly, the ability to provide practical and viable recommendations to address the identified problem. A research that is undertaken to identify a problem without practical recommendation is equivalent to the source of a problem. This research, however, makes the following practical recommendation in line with the research

aim and objectives to effectively address the identified problem:

- **Targeted workshops:** The QDS is advised to draft a programme of action that is aimed at conducting targeted workshops to the potential clients. The workshops must be detailed enough to address the importance of utilising QDS services by the investigations and the positive impact that the forensic report by the QDS has in court and other platforms, to ensure that the perpetrators of crime are held accountable while exonerating the innocent.
- **Forensic awareness:** The current forensic awareness programmes by Quality Management must be allowed to continue, with emphasis made during the awareness presentation that the targeted workshops will cover more details pertaining to the services that are provided by the QDS. This recommendation is informed by the fact that the current forensic awareness programme is comprised of all the sections of the FSL in a limited time slot – which does not make provision for a sufficient time for sections that are less known to the law enforcement personnel and other partners within the Criminal Justice System.
- **Visual aids:** The top management of the QDS and FSL to ensure that QDS has sufficient resources to embark on exhibitions. This includes the procurement of visual aids and freebies that will be displayed, and issued to the audiences as part of the campaign to make QDS well known, and its services to be optimally utilised. Print media and visual aids, such as pop-up banners, pamphlets, gazebos, and specialised branded vehicles are crucial and important aspects of marketing any business or service. In addition, the freebies such as key rings, pens, and other branded items of sentimental value should be procured to bolster the marketing drive of the QDS.
- **Decentralisation of services:** The QDS services must be decentralised to all the provinces in South Africa, and all port of entries. This will ensure that QDS services are easily accessible to its clients, without tedious efforts of traveling long distance to access such services. The more QDS offices and laboratories are visible and available to as many places as possible, the more well-known their services will be to its clients, and subsequently increasing the number of cases received for forensic examination.
- **Introduce forensic services as a module:** The SAPS development centres to incorporate the forensic services, including QDS, in the curriculum that is used for training of new recruits in the SAPS. The current SAPS curriculum does not include forensic services as a module for the new members that are recruited and trained in the police colleges. The introduction of a forensic services module will ensure that police officers are trained and well informed about the role of the FSL, and the services that each section provides. In this context, the purpose of training is to:
 - ✓ Provide information to the audience and enhance their understanding of the forensic services;
 - ✓ Promote information sharing and deliberation in a robust, yet respectful manner on a subject matter;

- ✓ Enhance knowledge capacity and comprehension of specific terminologies; and
- ✓ To ensure that the audience have all the necessary information at their disposal relating to the importance of utilising the forensic services as the investigating aid.
- **Competitive service:** There are many competitive organisations in South Africa, which provide similar services as provided by the FSL, especially forensic documents examination. The top management of the QDS and FSL must engage its counter parts from other government departments with a view to address duplication of services that could be provided effectively by QDS. Almost all government departments and private sectors have their own forensic department that provide similar services as QDS, which has a correlation in the decline of cases received by the QDS for examination.
- **Improved turnaround time:** The QDS must review its turnaround time for the finalisation of forensic examination of cases received. The current turnaround times of fourteen days, twenty-eight days, and seventy-five days are not competitive to the turnaround times from the QDS competitors. The prolonged turnaround time has a direct impact in the finalisation rate of cases, and if not reviewed downwards, the QDS will most likely experience a decline of cases received for examination. In the unlikely event that this recommendation is not taken into consideration, the consequences will include, among others, the underutilisation of QDS services and a subsequent closer of the section. This will mean that the state will have to outsource forensic documents examination services to other departments and private sectors.
- **Standby service:** Crime knows no time, and crime scenes know no boundaries. The incidents of crime, including crime scenes take place all the time, while the QDS only operates weekdays from Monday to Friday – with the exclusion of public holidays. This means that the QDS services are not accessible at night and weekends despite crime taking place all the time. The FSL should ensure that the standby duties are available 24 hours a day to ensure prompt and speedy accessibility of services when required by the clients. Standby duty roster must be made available to the police stations and other clients service centres, in order for the clients to contact the standby personnel in the event of the incident that requires forensic services. Currently, the QDS does not have standby duties to cater for weekends and public holiday's occurrence of crimes that require forensic documents examination. The limited knowledge by the police members and other crime investigators contributes to poor preservation, collection and packaging of documentary evidence, which results in unexpected forensic examination outcome.
- **Mobile service:** The QDS must consider the implementation of mobile services in which portable and mobile equipment will be carried in the vehicle to assist frontline police members in special operations such as special duties and road blocks. The special duties conducted by police officers on various points of the Country ensures law and order by inspecting identity documents, driving licences, passports, firearm licences,

and other questioned documents related exhibits. The mobile services by the QDS in such operations will bolster the detection and confiscation of potential fraudulent documents for further forensic examination that will be conducted in the laboratory environment. This activity will have a positive impact in the increased volume of cases received by QDS for examination – thus contributing in the CJS.

- **Embrace technology:** The world is evolving, and technology in a form of Artificial Intelligence (AI) is at the centre stage of everyday development. Many Countries are initiating and introducing digital technologies that process data. The introduction of electronic visa (E-Visa) and digital signatures (also known as E-Signatures) are some of the technologies that are widely used in many Countries and organisations. This development requires that the examination process of these electronic documents be conducted by means of digital technologies – as opposed to the traditional examination process. The QDS needs to embrace technology and procure the required hardware and software to conduct digital examination. Additionally, the QDS must ensure that its forensic examiners are trained to utilise the developing technologies.
- **Research and Innovation:** The FSL has to take its rightful position in the field of forensic science. The FSL cannot afford to continue to be a forensic consumer, but it should take up its role and pioneer forensic innovations and development. The FSL must be innovative and lead the forensic science in Africa, and be a role player in scientific innovations in the global stage by reducing its reliance and dependence of forensic innovations to other countries. Africa is alive with possibilities, and the FSL in South Africa has the potential to lead the scientific innovation programme that will be competitive in the global arena.

XII. VALUE OF THE RESEARCH

This research has the potential to influence a number of aspects in a positive manner. A research value is measured by its ability to effectively present the research problem and the presentation of empirical evidence supported by scientific data. The research must have realistic recommendations that have the problem-solving capabilities. This research provides the following valuable contributions:

- **Policymaking:** This research provides the foundation for the implementation of a clear policy directive that is aimed at providing leadership in efforts to keep the QDS sustainable and relevant. A clear policy directive is required to ensure that QDS emerge superior from the rival competitions in the examination of questioned documents and the global digital technology evolvement.
- **Societal value:** The QDS is the only institution that provides forensic examination of questioned documents for court free of charge to the society. This is as a result that the QDS is a state institutions and it is not driven by monetary profit, but to ensure equal access to justice for all. Other institutions such as the private sectors and private individuals provide their services at a monetary

cost to their clients, whereas QDS provide a free service, which is beneficial to the general society.

- **Academic contribution:** This research will assist the academics and researchers who will access the content of this research study for reference and academic purpose. The content of this research could be incorporated into the curriculum of the modules for studies, especially in Forensic Science and Criminal Justice.
- **Global input:** The international community will have a sneak peek of what is the current situation in South Africa through this research – thus contributing to the global community. The global forensic society will assess their interventions on the similar phenomenon in line with other international Countries, including South Africa.

XIII. RECOMMENDATIONS FOR FURTHER STUDIES

Recommendations for further studies is made in an event that the current study does not fully explore all the applicable variables pertaining to the research project. This research is not immune from such limitations in that a scientific research article is not similar to a textbook, which has the potential to cover as many aspects as possible. The scientific research article follows a prescribed format and guidelines that should be adhered to. It is for this reason that recommendation for further studies are made.

The FSL top management must conduct a feasibility study to assess the best possible manner in which the practical recommendations can be implemented. In addition, a further research study must be conducted to determine reasons for the mushrooming of similar services that are provided by the FSL, in particular the QDS. It is further recommended that a bilateral engagement be held with other government department to reduce the duplication of services, which contribute to the bloated and ineffective public service.

A comparative study must be conducted to ascertain how other institutions affected by the introduction of digital technology are managing to remain operational and profitable in their businesses. This will assist the FSL to adopt best practices, benchmark with its peers in the global community, and implement what is practically implementable in the South African context. Furthermore, a study should be conducted on how to gradually introduce Artificial Intelligence within FSL. Artificial Intelligence is the future in the field of science, and its dominance in the world at large is inevitable – a development that calls for all organisations and institutions to either adapt or perish.

XIV. CONCLUSION

South Africa has experienced a mushrooming of forensic services in private and government sectors, which are performing similar services as performed by the FLS-QDS. With the benefit of public knowledge on the operations of FLS-QDS, these sectors have capitalised on the weaknesses of the FSL and ensured that their forensic services is more effective and efficient, thus leading to the decline of forensic exhibits received and analysed by the QDS

of the FSL. The decline of forensic exhibits received by the FSL-QDS threatens the existence and the relevance of the QDS as the formidable forensic documents examination laboratory.

The FSL-QDS needs to urgently and deliberately implement the necessary actions aimed at addressing the decline of forensic exhibits submitted and analysed by the QDS. This includes implementation of the outlined recommendations and any other measures that the organisation may deem necessary, appropriate and effective. Although some factors that lead to the decline of FSL-QDS cases are not within the laboratory's control, a sizeable amount of the root causes, are however, within the abilities and capabilities of the QDS to address and turn the situation around.

The basis for further research were established in this study, in that the best model for implementing the recommendations must be determined. In addition, the collaboration with other institution must be established with a view to create mutual relations, and to adopt best practices for continuous improvement. Furthermore, the introduction of digital technology brought new phenomenon in the examination of questioned documents and the field of science in general. This requires an in-depth research to determine its advantages and shortfalls, with a view to maximise the use of technology, and minimise its impact resulting from the shortfalls.

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