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Digital transformation for leveraging police case records management to support justice for all in South Africa

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Abstract

The study sought to investigate digital transformation for leveraging police case records management to support justice for all in South Africa by studying the nature of technology applied for police case records management in South Africa. The study applied a qualitative approach with data collected using interviews, content analysis and observation. The population was sampled using purposive and convenience sampling methods in nine police stations. The study discovered that police stations are still managing docket records manually in paper-based format, which causes many problems, including more administration, and the safety and security of the information contained in paper. The other matters include missing, misfiling and long turnaround time for retrieval. The study recommended a framework for digital transformation that can move organisational modes of records management from manual papers to digital electronic operation, coupled with a framework that can guide the implementation of a digital transformation project. This will lead to the fast-tracking of cases' finalisation in the court of law for justice to all, because justice delayed is justice denied.

Keywords: police case, records management, justice support, digital transformation, South Africa

Introduction and background

The importance of records management cannot be disputed. Records management entails appraisal of records, planning and organisation, maintenance, creating management policies, procedures, and standards to guide the processes, classification and filing planning and disposition (Rouse 2022). Northern Territory Government of Australia (2024) shows that during record appraisal, records management officials evaluate or access records to check different values, whether archival or ephemeral. This assists them in deciding what must be kept permanently and which records should be destroyed in the short term or in a few years. The process also helps in determining the use of such records, whether informational or evidential (Northern Territory Government of Australia 2024). Values in different kinds of

records determine the way in which a particular category of records should be managed and their retention period in custody (National Archives of UK n.d.).

Records management assists by keeping only records that are useful for the organisation by eliminating those with short-term value from time to time and maintaining only records with long-term value (Rouse 2022; National Archives of UK (n.d.); Northern Territory Government of Australia 2024). This brings about effective business support for many aspects, including accountability, productivity, and the provision of access to information as a human right. If carried out properly, records management also saves retrieval time and keeps the storage neat and organised. It also minimises the number of litigations against the organisation, since most allegations might be proven wrong easily with the availability of authentic records. The organisation will enjoy the luxury of improved governance, problem-solving and decision-making (Rouse 2022).

Mishra (2024) found that technology is a form of putting scientifical knowledge into practice and it is used to test new ideas and introduce a new way of doing things to simplify people's lives. Hence, technology evolves at a very high speed (Mishra 2024). Records management technology also needs to change over time and technological trends to ensure records management is always appropriate for the organisation. Records created need appropriate care to ensure that they last as long as they are required, even for the next generation of the organisation or community. In order to see improvements and a new dawn in records management, changes should never be ignored or avoided (Rice 2023; BINF Technology 2024). Organisations should always venture into new and better ways of doing things and avoid remaining stuck in outdated ways. The current mode of records management requires new developments in technology for digital retention, continued education, automation, open standards, and cloud, among other things. As new technology becomes digital, all other means of records management, such as retention, should also be digitised. The frequent changes in technology also dictate continuous training to staff and clients to use the technology effectively without any struggle.

Moving from manual to electronic technology also requires organisations to think about and automate their processes and records. An aspect that must not be ignored with the adoption of new technology is the updating of policies, procedures and standards. In the electronic environment, it is always ideal to apply cloud storage for extensive security and manageable storage space with ease of access and use (BINF Technology 2024). In the current industrial revolution, many technologies are promoted for records management and maintenance, such as artificial intelligence, cloud computing, and blockchain, coupled with smart devices such as smartphones, tablets, and laptops. The introduction of new technology in records management may assist in improving the way records are managed, since automation will ensure that retrieval of and access to records are achieved with less energy or struggle. It will bring about sophisticated and robust safety and security of records with compliance with existing legislation and guidelines (Mckenzie 2023). "The advancement in technology has affected both society and the environment… Technology has changed society greatly" (Jasper 2024). In the records management fraternity, there is a dominant notion of love and hate regarding technology, although it brings about many changes in the mode of operation compared to the past records management practices. This is because technology evolves quickly. This evolution

also brings about improvements in the streamlining of processes in recordkeeping. Although technology comes with many advantages and improvements in business activities and functions, it does not come without any challenges, especially regarding "creation/capture, storage/retrieval, and records security, to name a few" (Rice 2023).

In the current age, technological growth has brought about many changes in the records management modus operandi. This includes record creation, capturing, storage, retrieval, safety and security, and many more. These changes in technology also came with many challenges for record managers and practitioners. Records management professionals will now have to acquire capabilities to work electronically in the management of all kinds of records, whether audiovisual, paper based or images (Rice 2023). For instance, Missouri University (2023) shows that record practitioners are required to have skills to operate electronic systems and machines, such as photocopiers, complex filing plan maintenance, arithmetic calculations and record reconciliation, as well as knowledge of working with computers and software, such as word processing, spreadsheets, data capturing, and management of databases (Missouri University 2023).

In the current technology, organisations have started applying cloud computing for the storage and sharing of records. Electronic technology is the best solution for records management, because most of the challenges experienced with manual technology are missing and misplaced records on the shelves, long turnaround time for retrieval of records, and shortage of space, among others. In the current electronic technology, records are retrieved by clicking a key on a computer keyboard. With electronic technology people are able to work on the same records remotely on the network. Working on the same records remotely means that more than one person located in different geographical areas may be able to access the same record at the same time and work on it for the same or different purposes, wherever they are located. The application of electronic technology may bring peace of mind through proper implementation with good and clear plans. There are many technologies, such as machine learning, to rescue the situation for the organisation (Rice 2023).

Although technology is introduced with the purpose of making people's lives easier, it still comes with its own challenges (Brett 2014). Electronic technology also comes with its own challenges, other than those posed by manual systems, such as obsolete media and bandwidth upgrade requirements with an increase in the number of users. It also requires electronic protection of records against any peril, including viruses, phishing, hacking and many more. This implies that electronic technology makes records more vulnerable to external threats if proper care is not taken. Preventive measures such as cybersecurity become a necessity when an organisation decides to use electronic technology. Organisations must also consider the application of relevant legislation for electronic technology applications to meet all the legal requirements. It is important that extra care is taken before starting with the application of new technology, because failing to do so may be costly for the organisation (Rice 2023). Data security, such as encryption, also needs to be innovated with the changes in technology over time. Big data and the Internet of Things also need serious access control for privacy and encroachment. Cloud computing may also become difficult to manage with ongoing innovation in technology that affects risks relating to security and privacy, contract, and licence conditions (Brett 2014). Adopting new technology in its current trending form/level is a big decision to

ensure improvement in the mode of operation that provides for serving all the needs of the citizen with a limited budget within a highly increasing demand in the business sphere of influence. This provides many benefits to the organisation, including but not limited to "consistency, objectivity, and protection" of the organisation and citizen (Butler 2023).

In the policing sector, the technology applied must be capable of assisting the policing team in achieving many investigative functions. The technology applied must enable police investigators to interconnect issues or cases through data in the process of strengthening the investigation by generating new insights as the process progresses. Technology must enable investigators to find evidence that is fundamental in the investigation of future threats with a clear identification of criminal patterns from cases under investigation from the analysis of complex data. The technology must provide a clear dashboard that allows for the organisation and correct interpretation of complex data. Technology should save time for investigations and other policing activities by automating some of these activities to complete them in a shorter period. It must also provide an advantage for many officers on different workstations and officers working on the same data at the same time and communicate about it (Cellebrite 2024). Crime rates are increasing at a fast pace in different parts of the world, and this challenges the law enforcement fraternity to adopt any feasible opportunity to protect citizens as clients. However, with the limited budget and other resources required, they still need to find a better way to fight or control the increase in the crime rate within their respective countries. Although there must be enough officers to enforce the law, they still need appropriate technology or tools to assist in effectively eradicating crime within an acceptable timeframe. For instance, to function properly in today's crime situation, law enforcement officers need "proper training, updated equipment, and proper evidence storage" (Butler 2023).

The work of a police officer is never complete without proper creation and protection of records about their activities and transactions. During the policing and servicing of the community, several transactions and activities are practised, and at this stage, records are being created right away. The records must eventually be kept in an appropriate storage, maintained, and safely managed to support legal proceedings and judgements in a court of law (Axon 2023). The police fraternity experiences several challenges, including the lack of up-to-date technology to keep evidence properly (Butler 2023). Technology for the management of records entails many techniques for records storage, organisation within the storage, access, retrieval, processing, and sharing, as well as tools such as policies, procedures, and systems. In short, police officers collect information from different sources in their investigation, including but not limited to victim and suspect statements, cameras, and crime scenes. Eventually, the records must be kept in such a way that they can be retrieved with ease by authorised people at the right time and place for the right purpose or intention (Axon 2023). Therefore, the technology must be maintained to remain up to date for ease of access to evidential information. These technologies include in-car/body-worn cameras, licence plate readers, drones/thermal imaging/shot spotters, forensic/investigative technologies, and video surveillance hardware/software. Forensic/investigative technologies can also assist in investigating crimes that are more technical and advanced, such as those committed online through internet networks, including digital or online harassment and stalking (Butler 2023). "The use of digital forensics expedites the investigative process. Digital forensics technology allows officers to collect data that can

otherwise be quickly destroyed, making the investigation more difficult" (Butler 2023). These technologies are popularly used in the United States of America and most European countries.

During the business process, police officers interact with many people as clients and colleagues, such as fellow officers, victims of crime and suspects of crime, and every interaction creates a record. In the current age, police officers utilise many sophisticated gadgets for capturing their moments during suspect interviews or interrogations (Axon 2023). These devices include, but are not limited to, cameras and voice recorders, which create records digitally. Some of these are body-worn on officers during their interactions, and some are mounted in the interrogation rooms (Axon 2023). Another kind of technology is drones, which enable officers to work safely from criminal harm, since drones can be operated from a long distance, which enables the capturing of criminals and crime activities possible without officers being present at the scene. This may be ideal for tackling crimes such as hostage taking and physical shooters, with police officers remaining free from shooting risks. Using a drone may also be quicker to approach the crime scene, capture the situation, and clear the situation within the set target time with no physical constraints for officers. Any area that is not accessible or difficult to access due to any reason may be accessed with a drone in a more sophisticated and easier way. In the end, records need to be protected and maintained for legal proceedings for such crimes in a court of law (Butler 2023).

> And this means there needs to be adequate digital evidence repositories that can store not only digital evidence but also video footage and even basic notes. These storage systems are more important to the future of policing as the efficient solving of crimes becomes more technologically advanced… The future of police and law enforcement lies in the ability to adapt and adjust to new technologies with the continued support of the community. This requires a mutual understanding that technology promotes objectivity and efficiency that allows the police to do a better job. It also requires a commitment from the government to balance investments in officers and technology… While the newer technology makes the job better, there needs to be adequate numbers of law enforcement personnel to complete this difficult job (Butler 2023).

Technology enables police officers to be even more proactive in their functional activities, especially for crime prevention, with the use of body cameras. Body cameras provide fascinating legal evidence for a court of law. Apart from that, they also protect police officers from untruthful allegations of unlawful acts and make officers refrain from illegal acts. Technology will also help avoid subjectivity and promote objectivity for the benefit of both officers and the community in the policing functions in the field (Butler 2023). At the end of the day, every police task produces many records in different formats and media, which eventually need proper storage, maintenance, and care for future retrieval and use. These records must be kept properly in a way that is secured and safe for easy access and retrieval by detectives and prosecutors during their business functions (Axon 2023).

Over the past few decades, agencies responsible for policing have tried to place much of their focus on new technology to develop and improve their service to the satisfaction and for the protection of the public. This has led to satisfaction with the law and satisfactory service delivery in policing in most countries. It is important to identify the kind of technology that

becomes an option for policing in the midst of all the new and advanced technologies, and the reason behind such choices. The other important question is whether these chosen technologies appropriately serve the purpose and help achieve targeted policing goals or whether they assist in addressing target issues (Strom 2017). Strom (2017:1) further attests that,

> technology and policing have been interconnected for decades, dating back to the advent of the telephone, the automobile, and the two-way radio. Today, technology seems to be advancing at an ever-accelerating pace, as seen through the propagation of mobile and wireless technology, high-powered computing, visual and audio technology, advanced analytics, and other technological advancements. Many departments are implementing these and other technologies to increase efficiency and to improve outcomes, especially in times of diminished resources and enhanced public attention to and scrutiny of law enforcement tactics and outcomes. However, much remains unknown about the prevalence and utility of technology among the nation's law enforcement agencies (LEAs) and the factors that influence its selection and implementation.

Computers and implementation were introduced 40 years ago to law enforcement utilisation inside police vehicles. Mobile data production and access allow officers to capture and access their database on the go as they are busy with their day-to-day responsibilities of patrolling, and many others. This also means that officers can access their recorded information at their fingertips. The gadgets that may be utilised include but are not limited to tablets, laptops, smartphones, and other mobile police technologies to allow officers to have a high level of mobility in their work, such as investigations and visits to crime scenes. This will enable them to manage crime in real time. These types of records management systems will ensure that police cases are concluded and resolved in a planned timeframe (10-8 Systems 2024). "These mobile technologies have significantly improved officer safety, productivity, situational awareness, and public safety. The culmination of these technological advancements has led to the development of sophisticated systems like Computer Aided Dispatch, or CAD, which have become indispensable tools in modern policing" (10-8 Systems 2024). Strom (2017) shows that in the US, technology is heavily utilised, especially for policing services, since more than 95% of policing agencies have already implemented at least more than one of the technologies of interest considered to be the core in the business or services. These technologies include car cameras, information-sharing platforms, social media, body-worn cameras (BWCs), geographic information system technology (GIS), cell phone tracking software, investigative case management software, analytical and visual-based technology, licence plate readers (LPRs), and predictive analytics software. The US expects to increase the use of technology in its policing with the introduction of new advancements such as car electronic ticketing, next generation 9-1-1 or unmanned aerial vehicles (UAVs or drones) (Strom 2017). The introduction of new technology in policing services brings about "more integrated, efficient, and responsive law enforcement environment" (10-8 Systems 2024).

In the course of planning the adoption of new and advanced technologies, it is important to deeply think about the interconnection of the target technology with the strategies for policing. In most instances, large policing agencies with more than 250 officers rely more on technology than small agencies. Large agencies mostly connect technology with their policing strategies. The types of services or policing strategies involved include zero-tolerance policing,

community policing, intelligence-led policing, hot-spot policing, professional policing, and problem-oriented policing. Some of the policing activities, such as professional policing and problem-oriented policing, did not apply much of the technology. Among the technologies, BWCs were mostly applied for hot-spot policing and GIS for community policing, while LPR and social media were used for both policing philosophies (Strom 2017).

The policing fraternity needs to identify their technologies based on their strategic planning and not on an ad hoc basis to ensure that they choose technology that will serve their policing strategies and may last longer or forever. They need to first identify the benefits of their choices strategically in line with each policing philosophy to avoid redundancy and discontinuation of adopted technologies after investments with a large amount of money (Strom 2017).

Nevertheless, one key purpose of technology for any business function or activity is to capture and keep records of different business transactions and incidents. This is no different from technologies applied in the policing services. As you may understand, some of the technologies mentioned before, such as cameras and drones, are used to create records, but some are for analysis and interpretations, like GIS, and all others are related to analytics. All these need the intermediary technologies such as automated records management systems (RMS) to centrally keep created records and make it accessible to authorised officers and other technologies such as GIS and analytics-related technologies. Eventually, officers may access information from this technology through other technologies or directly from the RMS. For instance, GIS may analyse data or give reports directly from RMS about different criminal incidents that happened within certain periods in various regions of the country. This will help the police to pay more attention to the most affected or dominated areas in the country (Strom 2017). There are many positive impacts that come with electronic technology that may lead to improvements in the policing services for the communities. For instance, in the US, the law enforcement service benefited from the introduction of new technology from time to time, such as an efficiency increase in the provision of communication, enhanced practice of sharing information, and improved capacities for information analysis. The new technology came as a game changer in law enforcement, pertaining to many policing activities, including but not limited to crime prevention and response in improving safety for the public. Law enforcement must consider three important factors as they adopt the new technology, which are “community, agency and technology”. Community factors are about prioritising the local communities, “state law or national sentiment”. The agency factor addresses organisational crime climate that influences the kind of technology to adopt and implement across different policing departments. The technology factor finally influences the adoption of a particular technology and its success (Strom 2017).

In order to adopt appropriate technology for policing service, there are several things that need to be considered. These include research about appropriate technologies for policing, technology considerations in strategic planning, collaboration with technology experts to assist in making decisions, and considerations of past technology experience (Strom 2017).

Ngoako Marutha

Digital transformation technology for leveraging records management

Digital transformation technology is the use of digital technology in the process of reshaping the business process or reengineering business workflow (Perry 2022). It is "the process of using digital technologies to create new – or modify existing – business processes, culture, and customer experiences to meet changing business and market requirements" (Salesforce 2024). Digital transformation strives for an improved modus operandi in the organisation. It practically moves for the adoption of new technology for the business's operational activities and functions. It may bring about improved or completely new technology to replace old models in the business operation for efficiency and quality in production. Digital transformation may help any organisation to improve its production, regardless of its size. In the adoption of new technology during the transformation of digitisation, the organisation must consider room to accommodate future evolutions, in terms of technological effects on business processes, culture, and models. Digital transformation is about changing the current mode of operation in the business, including processes, goals, workflows, competition, and demand of service or products by clients. Generally, digital transformation brings about transforming the way business and its functions operates from good to better. When transforming a business process, the focus is on improving workflow and business activities discharged daily. Transformation of a business model then focuses on the organisational values and new opportunities that may come with the new technology for improved service delivery and business outcomes. An important aspect to consider in the adoption of technology to transform business processes with ease is that you need to engage everyone involved in or affected by the system to nurture the working culture and get staff buy-in and ownership to avoid resistance in the ancient culture (Perry 2022). Salesforce (2024) shows that new technology "adds value to every customer interaction."

There are several technologies that can be applied in digital transformation to transform business operational processes, such as cloud technology, artificial intelligence, machine learning, big data, real-time analytics, Internet of Things, 5G, augmented reality, digital twin, addictive manufacturing, and 3D printing. Cloud computing provides computing services to organisations in a flexible and scalable manner and is often rendered by an independent service provider. Cloud computing services may be received or acquired with infrastructure, platform, and software. The infrastructure may include a server, storage, and a network. Platforms provide a service regarding advanced technology access, and software is about receiving services through the internet rather than a desktop (Perry 2022).

Cloud computing includes important aspects such as scalability and agility (Perry 2022). "Law enforcement agencies typically employ cloud-based systems such as a public safety cloud to help with data storage and management issues. In addition, cloud computing and secure sockets layer (SSL) encryption offer a far superior level of security than traditional on-site servers that many agencies have used in the past" (10-8 Systems 2024). Cloud computing offers a solution to problems attached to ancient storage systems, such as advanced technology that is scalable, agile and cost-effective. Artificial intelligence and machine learning are about machine simulation of cognitive processes in humans, which includes expert systems, natural language processing, computer vision, predictive analytics, and speech recognition. This kind of technology makes use of the data collected in the business processes to make decisions and

guide future actions. This helps organisations to become innovative in improving business processes, strategies and services (Perry 2022). Cloud computing is an industrial revolution technology that is applied in interconnection with other technologies such as big data, blockchain robotics, Internet of Things, and artificial intelligence (Chung 2021; Modiba 2021; Manesh, Pellegrini, Marzi & Dabic 2020; Holland 2020; Bakogiannis, Mytiliuis, Doka & Goumas 2020; Liao, Deschamps, Loures & Ramos 2017). Artificial intelligence technology was made to resolve most, if not all, kinds of problems and challenges experienced in the records and information fraternity (Alex 2020; Modiba 2021). In a way, AI technology makes it even easier to retrieve information as such records are protected with coded security encryption while saved in the cloud (Liu 2011). AI may bring about resolution in the organisational struggle with missing or lost records, long turnaround times for record retrieval and duplicated records in storage, which becomes fruitless and wastes storage space (Maderer 2017; Iron Mountain 2019; Jarrahi 2019).

Big data analytics technology helps to analyse large amounts of data in business decision-making. Data is very important to grow the modern economy. Big data came with a big challenge for organisations, as it increases exponentially over time, which now becomes difficult to analyse with ancient technologies. Depending on the organisational modus operandi, big data may be structured, semi-structured, unstructured or even scattered into all three structures. This data becomes big as it is generated every time an organisation renders services to their clients or conducts business transactions. Data is eventually applied during the process of business data analytics for predictive modelling and mining data, among other things. Big data analytics technology assists organisations in ensuring that large amounts of data is processed within a reasonable time to strategise and make informed decisions (Perry 2022). Big data, coupled with cloud computing and blockchain, is applied to ensure that service delivery through the system is not interrupted, with the provision of safety and security in records storage (Ayodele & Kajimo-Shakantu 2021; Modiba 2021; Bakogiannis et al. 2020; De Koker & Du Plessis 2020).

Real-time analytics is the technology that brings about timely analysis of data as it becomes available after creation during business processes. Once the data becomes available in the system, it is analysed immediately. This enables timely decision-making in the operational processes, especially about other technologies, such as robotics process automation applied (Perry 2022).

The Internet of Things is an internet system connected with computing devices, machines and other relevant objects functioning independently to share data over the network for appropriate access by relevant and authorised data users. The Internet of Things requires 5G for more bandwidth, faster transmission, and seamless connections. This will bring about flexibility, innovation, speed and high quality in business processes and functions, which finally improves customer satisfaction rate (Perry 2022). Oracle (2024) shows that “the Internet of Things (IoT) describes the network of physical objects - “things” - that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet”. The IoT was made possible with the introduction of a few other technologies, such as “access to low-cost, low-power sensor technology, connectivity, cloud

computing platforms, machine learning and analytics and conversational artificial intelligence" (Oracle 2024).

Augmented reality provides for the connection of "digital information to a visual user experience" (Perry 2022). Gillis (2024) defines it as "the integration of digital information with the user's environment in real time". Gillis (2024) also underscores that augmented reality (AR) differs from virtual reality (VR) in that VR has to do with an environment that is totally virtual, and AR is more about an environment that appears to be the real world to users. AR assists in organisational decision-making and entertains users. AR assists in the provision of or access to additional information to support the business. AR also provides both sound and visual elements, among other sensory information, using gadgets such as smartphones, glasses, headsets, and many others (Gillis 2024; Microsoft 2024). This kind of technology assists both customers and employees of the organisation, and improves productivity in quantity, quality, knowledge transfer, and training. It also brings about changes in the mode of interaction through the business process with the introduction of new technologies (Perry 2022).

Digital twin technology bridges physical and digital gaps, with the technology reflecting on the physical objects to yield decision-making results or information. This kind of technology uses sensors to generate results from the performance on the target object. Good examples of these include conditions in weather, outputs in energy and temperature (Perry 2022).

Addictive manufacturing and 3D printing "uses computer-aided design (CAD) to instruct hardware to deposit a material with a specific shape layer by layer, automatically fabricating a desired object" (Perry 2022). This is a highly mature technology that was created decades ago and has been applied ever since. It provides for high quality in the end-product that has more improved performance than the ancient systems (Perry 2022; 10-8 Systems 2024). CAD provides more advantages in the policing activities, including the ability to identify the location of fellow officers through GPS technology, decisions on calling for backup and reporting on vital information (10-8 Systems 2024).

Problem statement

In records management, the manual or paper-based mode of operation has always appeared to be the cause of many problems in the legal fraternity. These include a delay or denial of serving justice in court. In most instances, records that are managed manually are difficult to retrieve within the required timeframes, even if they are eventually located. This is because of a poor manual tracking system, misfiling, and missing files. If police case records (dockets) are missing or misfiled, the court can normally not proceed with the case or judgment. The case could then be dismissed because of a lack of evidence or supporting information. This means that criminals get away with the crimes they committed. Studies discovered that records are easily lost because of the way records are created out of the office, such as in the car, using a manual paper-based format. Due to a loss of focus and concentration, the records are easily lost or stolen in the process. One police officer often deals with more than one case, and in the same vehicle used as an office, s/he serves both suspects and victims of crime. The wrong party could easily get access to the records containing evidence that may lead to his or her final judgment. This may eventually lead to justice not being properly served to the people involved in the act

of crime. In some instances, officers may also be bribed by suspects to jeopardise the evidence already submitted by a victim (Nicolson 2019). The aim of this study was to propose a framework that may guide the digital transformation in the implementation of secured management of police case records using industrial revolution technology in South Africa. The introduction of digital transformation for police case records management using industrial revolution technology in South Africa may put a stop to this problem. Digital transformation will assist in leveraging police case records management to support justice in South Africa.

Purpose and objectives

The purpose of the study was to investigate digital transformation for leveraging police case records management to support justice for all in South Africa, by studying the nature of technology applied for police case records management in police stations.

The study objectives were to:

- Determine the nature of technology applied for police case records management in South Africa.
- Propose a framework for digital transformation to leverage police case records management to support justice in South Africa.

Methodology

This case study applied a qualitative research approach to collect data in nine police stations in the City of Tshwane. The study used a qualitative approach because the intention was to explore the cause of the problem and solutions to remedy the situation based on the explanation, experiences, interpretations, reasoning, motivations, and views of the people affected by the situation under study (Creswell 2014:11–12).

Schoch (2020) states that a case study, as applied in this study, is about identified events or situation analysis or examination in relation to a particular organisation, as targeted by the study. A case study may either be single or multiple, depending on the number of cases under study (Gustafsson 2017). This study was a multiple case study, as it targeted 10 police stations within the Gauteng province, in the City of Tshwane, although one did not participate due to their reasons, and this left the researcher with nine stations.

The population of this study included records management officers and guidelines for records creation and management at different levels in nine police stations within the Tshwane Metropolitan Municipality in the Gauteng province of South Africa. This is because police officers are the ones creating records and using information in the records to prove the cases, and they are the ones affected by the records directly. Records management officers are responsible for the management of records to support police cases with information. The population is the total sum of elements or people sharing the same characteristics (Creswell & Creswell 2018). Population does not necessarily include people, but may also include a group of objects, or even any other factors connected to the problem of the study (Bryman & Bell 2015).

This study applied purposive sampling as a non-probability sampling method for the interview, coupled with the convenience sampling method. This helped to ensure that the researcher purposively included people who appeared to be knowledgeable about the issues under study (Kumar 2019) and that only available officers were accommodated. This implies that even though officers were identified for participation based on the researcher's judgement that they were knowledgeable about the situation under study (Kumar 2019; Kothari 2004), it still depended on whether the selected officers were available to participate or not due to other work commitments. The interview sample included nine police stations, instead of the targeted 10 police stations within the Gauteng province due to proximity for the researcher, but, unfortunately, one police station did not show interest in participating and refused access to the population. Participants were purposively sampled per rank in nine police stations. From each of the nine police stations, the researcher covered one senior staff member, which was either a senior management commissioned officer, commissioned officer, non-commissioned officers, or one records management officer, whether registry head/representative.

In this study, data were collected using interviews, observation, and content (documents/system) analysis as some of the common tools normally applied in social science studies (Ngulube 2020). Using more than one data collection tool and technique eliminates bias, weaknesses, and errors, which also strengthen the study findings and recommendations (Creswell 2007:4). Data collected through multiple techniques are finally triangulated to close gaps against each other to support each other (Thurmond 2001:256). In conducting the interview, the researcher requested a meeting with heads of records management and police officers at supervisory or senior levels to have a conversation regarding issues under study, as guided by research objectives (Bless, Higson-Smith & Sithole 2013). In conducting observation data collection techniques, the researcher observed the state of records management for police case records in terms of maintenance, circulation (usage and use), safety and security, access and control, disaster management, recovery and disposal. In conducting content analysis, the researcher assessed systems and guidelines used for records creation, management, and use to study cause and effects of the problem under study in line with specific objectives. In the process, data were reviewed and interpreted (Creswell 2009:181).

The study applied thematic data analysis by creating themes from objectives and addressing each theme with appropriate data and literature. For interview data, participants were coded to properly present their responses verbatim using quotation marks, and for observation and content analysis, data were presented under each appropriate theme addressing a particular objective. Data were arranged, organised, cleaned, and presented thematically per objective (Babbie & Mouton 2001).

Presentation of the findings

Because of the protection of personal identifiable information for institutions and participants, the study used pseudonyms for both police stations (target institutions) and participants who took part in the study. In this study, the police stations were coded as Police Station 1 to 9, and participants for the interviews were coded as Participant 1 to 9 for officials working in the dockets filing custodies.

Participants' education and experience

Participants were requested to provide information about their qualifications and experience. The responses from police case records (dockets) management participants were as follows:

> Records Participant 1 stated that "I am a senior registration admin officer with 30 years in policing."
> Records Participant 2 stated that "I am a captain with 30 years of service, I have a BTech degree."
> Records Participant 3 stated that "I am a sergeant with 15 years in the police service. I have a national diploma in policing."
> Records Participant 4 stated that "I am a sergeant with 29 years' experience in the police service. I have a BTech in policing and now busy with honours."
> Records Participant 5 stated that "I am a docket admin clerk with three years in the organisation and I have matric."
> Records Participant 6 stated that "I am 15 years in the field and currently appointed as sergeant."
> Records Participant 7 stated that "I have been in the police service for 30 years and have standard 10."
> Records Participant 8 stated that "I am a Sergeant, have served the SAPS for 22 years with a policing diploma."
> Records Participant 9 stated that "I am a warrant officer and have been in the SAPS for 16 years now."

The nature of technology applied to police case records management

Observation indicated that police stations heavily use manual paper-based records management for police case records or docket management. Records were created, stored, maintained, and used manually in a paper-based format and medium in a normal situation, but during creation, dockets were backed up through scanning and kept in an electronic system. The system was only used when the physical records or files were missing. The paper-based custody records were filed using folders that were arranged in boxes on shelves. Custody were installed with static filing cabinets. Records on the shelves were arranged using system-generated case numbers and year and month of filing the dockets in both folders and boxes. Security measures were ancient burglar-proofing and officers working in the registry. Some of the storage was installed with water sprinkler fire-fighting equipment. At least some of the storage areas had smoke detectors. Almost all filing cabinets were full of case dockets crammed with records, and there was insufficient filing space. Some of the police stations started using goods transportation containers, which are not good for the ventilation of records.

Observation reports indicate that shelves were classified according to the boxes with assigned file numbers, current year, and month. This was confirmed with Figure 1. When asked about classification systems used in the police station dockets filing, some of the interview participants replied as follows:

Records Participant 1 stated that "our shelves are represented by labels on the boxes with year and month plus file numbers as contained in the boxes."
Records Participant 2 indicated that "our files are shelved using dockets year and month with file number for the year."
Records Participant 3 said that "in classifying our docket files, boxes are labelled using the current year, month and file numbers for files that are kept in each of the boxes."
Records Participant 4 expressed that, "dockets classification is completed by numbering all the files and put inside the box on the shelves, then shown on the box label the file numbers contained in the box, with the filing year and month."

Figure 1: Shelves, files and boxes labelled

Observation also indicated that docket storage in almost all the police stations was full to capacity and officials struggled to identify space for the filing of newly created dockets. This can be confirmed with Figure 2. Interview participants replied as follows when asked about filing space and custody for police dockets:

Records Participant 5 stated that "it seems like storage for dockets will never be enough because a lot of records are created every day as cases are opened."
Records Participant 6 said that "we do not have space at all and we started putting files anywhere we see open space within the storage, even if is not on the shelves."
Records Participant 7 alluded that "filing space is a big problem in the docket section, files are filed every day, and this will make it difficult to find dockets when they are needed in future."
Records Participant 8 confirmed that "police station does not have sufficient space for filing of dockets."
Records Participant 9 stated that "filing space is not yet a problem for docket filing here, but because there is no disposal and dockets keeps on increasing every day, filing space may be a bigger problem in the near future."

Figure 2: Docket filing storage conditions

Observation indicated that the space for docket records was narrow, as shown on Figure 3. Burglar doors were used to control unauthorised access and intruders from entering the docket records storage or custody. Storages did not have any ventilation systems, and temperature and humidity control tools were also missing in the storages. Filing cabinets were also fitted with a water sprinkler fire-fighting technology, which may also be dangerous to these records. Records were stored on the floor up to the roof, which could lead to heat damage from the sun, cleaning chemicals, and water. Lights are always on in the storage areas, because people use it

as a registry. In addition, foam fire extinguishers were mounted in the storage areas, which could also damage records during a fire. At least some of the doors in a few police stations were labelled with unauthorised entry restricted signs. Some of the records were filed in the steel containers, which could be dangerous to the records due to heat. When asked about the security of docket files, some of the participants replied as follows:

> Records Participant 3 stated that "our records are secured since we use burglar-proofing for the door entrances. We have fire extinguishers and smoke detectors for fire. Unfortunately, we do not have any more security measures."
> Records Participant 5 stated that "I cannot say our dockets are fully secured, but at least we have the basics in place like burglar-proofing with extinguishers for fire-fighting."
> Records Participant 8 added that "security measures are not sufficient for the dockets and its storage since we only have burglar-proofing with no focused cameras and other modern technologies."

Figure 3: Police case record (docket) security

Observation indicated that working conditions and office space for officials in docket management divisions were poor in all the police stations under study. See Figure 4 for details. Officials were working in the docket filing custody areas. They ate breakfast and lunch in the filing rooms since there were no specific offices allocated as a registry for the filing staff. This implies that officials had to eat and drink in the record custody areas. When asked about working conditions during the interviews, some of the participants replied as follows:

> Records Participant 4 stated that "working condition is too bad because we work and eat here, no dedicated office for us as staff."

> Records Participant 7 stated that "the station does not have enough office space for all staff, and we have to work here in the dockets storage facilities."
> Records Participant 9 stated that "we have limited office space for staff, but at least we can work in our dockets storage areas."

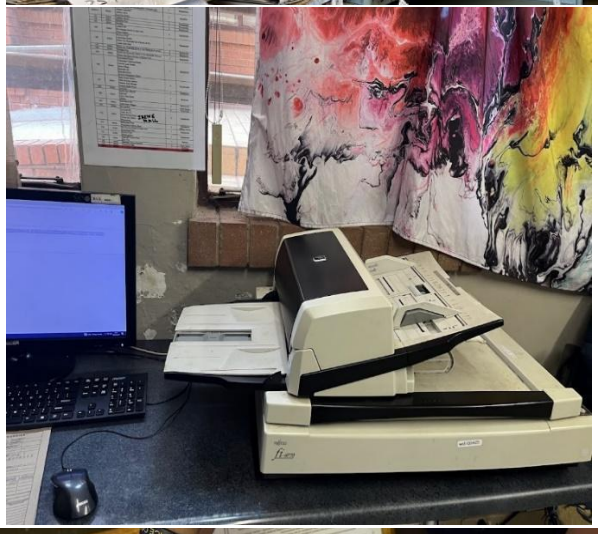
Figure 4: Working conditions and office space for docket management officials

Observation indicated that police stations used shelves, boxes, and file covers or folders to file dockets, as presented on Figure 5. They also had policy guidelines and a filing system issued from the national office, although the filing system appears to be for correspondence records instead of case or other records. Stations also had scanning machines for backup records upon creation. In the interview, participants answered as follows to questions about working tools for police dockets:

> Records Participant 6 stated that "we have filing resources but are not sufficient since we have to improvise the filing."

Records Participant 7 added that “at least we have scanners nowadays for backup in case dockets get lost, unless the case requires original records.”

Records Participant 9 alluded that, “I cannot say we have enough, but we are trying to survive with the little we have in our disposal”.



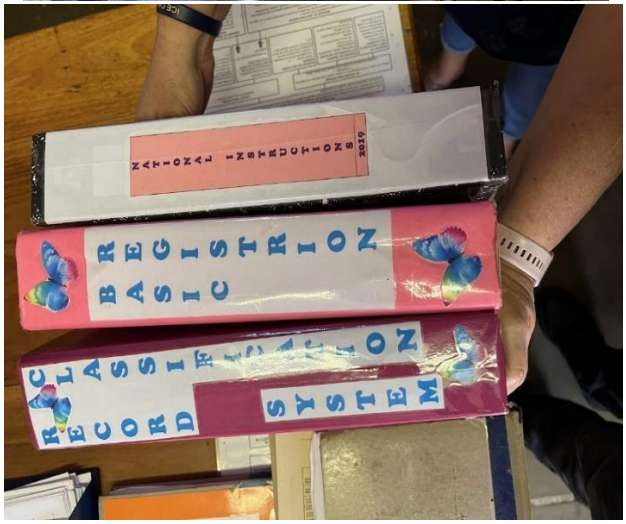


Figure 5: Docket management working tools

Discussion of the findings

Training is a cornerstone of proper records management and is recommended by Butler (2023) for proper functioning of law enforcement officials. Almost none of the officials working with police docket records have received training for records management. All officials are police officers with a policing background, qualifications and experience. This is a serious problem, as officials are not familiar with records management principles and best practices. It appears that most officials are relocated to docket records management due to non-performance in their initial working areas. For instance, when officers grow older or sustain injuries or health-related challenges, they are reallocated to work in records management, especially the docket management unit. Even worse is that officials are transferred to this function without any skills development. Officials working in the docket registry hold titles such as sergeant, captain, warrant officer, to name only a few, and have up to 30 years' experience in policing. The majority are new to the field of managing records. BINF Technology (2024) underscores that officials need to receive training from time to time as technology evolves.

Organisations are stuck in the manual mode of operation while technology is evolving. Although there are challenges that come with new technology, organisations will be better off using it than the manual system (Mckenzie 2023; Rice 2023). The police stations' docket record management is purely manual, since their records are created and managed in a paper-based format and medium. In their daily records management activities, officials in the dockets management unit manage and maintain their records manually without any electronic system, except for scanned backup copies, should the original paper-based records disappear or be damaged. Dockets are manually filed on the shelves using file covers and boxes. Files are arranged on the shelves in boxes labelled with the month and year of creation and the case number. Police stations normally use static filing cabinets containing various kinds of boxes. Boxes are also not standardised – they often differ in the same storage area. Due to a lack of sufficient boxes, some of the records are placed on the shelves using folders bound together by strings. Records in custody appear to be not sufficiently secured and safe since most of the security measures are too primitive and some are not relevant for record protection. For instance, water sprinklers were installed to fight fires, which may result in the records being damaged in the process of fighting fire. At least some storage areas were installed with smoke detectors to alert officials of any fire in the records storage area as early as possible. Foam fire extinguishers were spotted in some of the docket custodies, which may be dangerous to records.

This brings about effective business support for many things, including accountability, productivity, and the provision of access to information as one of the human rights. If carried out properly, records management also saves retrieval time and keeps the storage neat and organised. It also minimises the number of litigations against the organisation, since most allegations would easily be proven wrong with the availability of authentic records. The organisation will enjoy the luxury of improved governance, problem-solving and decision-making (Rouse 2022).

Proper records management needs sufficient filing space that is neat and organised to protect the records and enable easy, timely and safe retrieval. This will eventually help the organisation to prevent or minimise the number of litigations against the organisation, since most allegations may easily be proven wrong with the availability of authentic records (Rouse 2022). At some institutions, the filing space for docket files was also almost full. They started using containers for filing, which were without an appropriate ventilation system for humidity and temperature control. Every storage, including steel containers, contained files stored from the ground to the roof, which may lead to records damaged by the heat, flowing water from cleaning or rain floods, and chemicals from cleaning materials. Lights are always on in many storage areas, as officials always work there and have workstations in the storage areas. This could make it difficult to locate and retrieve files. At least some doors are labelled with a sign for unauthorised entry.

Records management working conditions need to be neat and organised for great productivity (Rouse 2022). The working conditions for officials working in the docket records management are not good, since most, if not all, of them work inside the filing rooms with their workstations located between the shelves. This is not healthy for records or employees, because records gather dust and could infect officials. Officials might also not be able to maintain the required temperature if they spend their working time in the storage area. For instance, they may not cope with working in an office with a temperature below 20 degrees Celsius. In addition, officials drink and eat their breakfast and lunch in the storage area, which may attract mice and rodents that may feed on and live in the files.

At least the institutions had a nationalised records management guideline or manual, but they still do not have policies informed by legislation governing records management and archiving. They also do not have a standard filing system for dockets records but instead they only have a correspondence filing plan.

Recommendations from the findings

Institutions need to consider improvements to secure their docket records. The currently appointed officials for dockets records management need to be either developed with appropriate records management training or replaced with qualified and experienced candidates holding the appropriate qualifications required for records management. The current officials, if appropriate, could be replaced and reappointed to their relevant policing positions connected to their qualifications and experience. Officials who receive appropriate records management training and qualification would be able to improve the current situation with appropriate best practices and may also have a vision for future improvements moving with trends in technology. Institutions may need to refrain from using the records management division as a dumping site for officials with poor competencies and little commitment in their original positions. These are, for instance, shop stewards who are always in union meetings instead of focusing on their work, employees with poor competencies, and employees with illnesses that disable them from doing certain jobs. Generally, people must be appointed to the registry because they are qualified and have the necessary experience and qualifications. The focus must be on improving records management service instead of relieving people or sending them to the division to rest.

Institutions need to look for modern archives and records management technology to transform their mode of operation into electronic in order to save working time and resources. This may lead to organisations working smarter. In the current industrial revolution, there are many technologies that could be adopted in transforming records management to digital form, such as artificial intelligence, robotics, blockchain, the IoT, fifth generation technology (5G), and many more. This may lead to managing their dockets in a paperless manner. This could also reduce officers' struggle with manual operational resources, such as covers, boxes, shelves, or cabinets, and many more. It would also lead to more sophisticated electronic security. However, institutions still need physical security measures in place even if they move to complete electronic records management because a physical server would still need the same physical security measures, unless they use cloud computing for storage, especially a private cloud, because other responsibilities would be shifted to the hosting organisation.

Figure 6 presents a digital transformation framework for leveraging police case records management to support justice in South Africa. As illustrated in the framework for digital transformation to commence, organisations would need to digitalise their current records that are in different forms, such as paper-based and analogue forms. The records management workflow would also need to be digitalised so that the functions and activities of managing dockets are no longer manual but electronic. In this way, records could be captured into the system, arranged, organised, managed, processed, and accessed electronically. Institutions would need to develop and implement a digital transformation framework to guide the entire process, showing step-by-step workflow. In digitalising the workflow for docket management, institutions would also need to identify an appropriate electronic records management system for adoption and implementation for docket management. The electronic system must be capable of capturing both digitised paper-based and analogue records, as well as newly created records that are born digitally, to be captured directly into the system. The system may need to depend on cloud storage for more capacity, and it must be infused with artificial intelligence technologies to enable a modern mode of operation. The system, together with cloud storage, may need to be protected with cybersecurity for the safety and security of data on docket records. The docket records captured through the system would then be stored in the cloud and also on the local server for backup.

Appropriate legislation, policies, procedures, and standards would also have to be identified or developed if they do not exist. This would help to guide the entire process of digital transformation. It is hoped that the transformation would eventually result in leveraging the management of docket records across different institutions. In the end, institutions should have easy and timely access, and the sharing of secure docket records across different institutions, accessible to any authorised official at the right time and place.

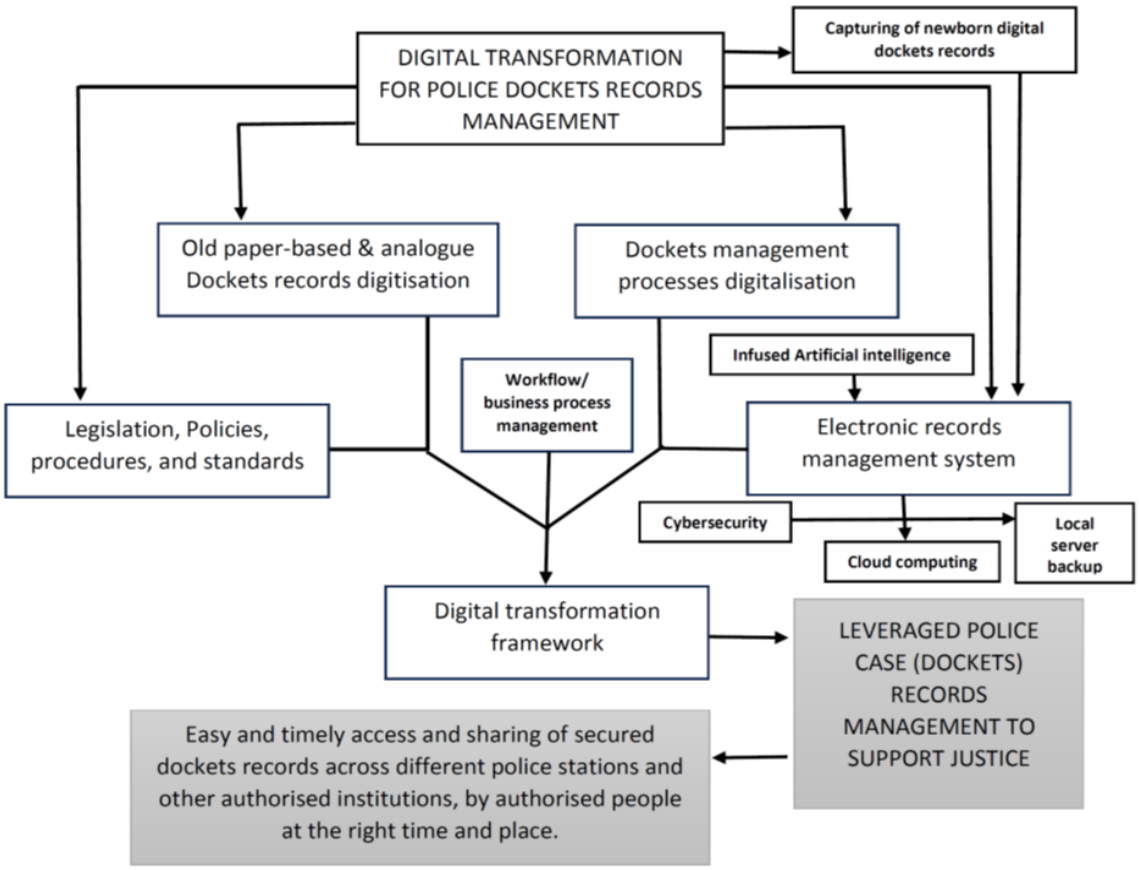


Figure 6: Digital transformation framework for leveraging police case records management to support justice

Furthermore, although the study recommends digital transformation for the institutions to move from manual to electronic, if institutions opt to proceed and maintain the current paper-based modus operandi, they would need to ensure that filing storage areas are equipped with carbon dioxide fire extinguishers, not foam or water fire extinguishers; that heavy duty air-conditioners are installed and set between 18 and 20 degrees Celsius; that smoke and water detectors, fire and water preventive measures, preventive measures for other kinds of disasters are instituted; that staff are allocated an office for registry to refrain from working in the storage facilities; and that sufficient resources and filing infrastructure are provided to the docket registry. This may enable officials to keep the storage temperature at the required level and ensure that the lights are switched off when there is no activity in the storage areas. Institutions must have a records disaster management plan and appropriate resources for prevention fighting and recovery from the disaster. There is also a need for the development of a records management policy and an appropriate manual for record organisation, arrangements and filing, as well as access control. Institutions need to develop a filing plan specific to docket records, as the existing plan is for correspondence records.

Conclusion

The management of docket records is critically important because should the docket disappear, it automatically tampers with the legal proceedings in a court of justice. The information contained in the docket determines whether the accused or suspect can be found guilty of the

offence or not. In case the docket is lost or damaged, the case may not be attended to and may end up closed, and the suspect will be released even if he/she is guilty as charged. As a result, the victim is victimised even more as the case was not concluded satisfactorily. It is hoped that with the recommendations from this study, institutions and other police stations beyond the study area will be able to improve their dockets records management in practice and principles. The study also provides a framework to guide the institutions in the implementation of the proposed solutions or recommendations.

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