

Knowledge management, criminal investigation and the Basic Policing Model: an integrated approach towards effective detection

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ABSTRACT

According to Poe et al. (2021), knowledge management is essential towards certifying effective intelligence-led policing. Predominantly, the integration of Knowledge Management (KM) in policing abets the establishment, collection, analysing and disseminating intelligence (Poe et al., 2021). This corroborates the demand to effusively realised KM as a strategic constituent towards intelligence-led detection. In the financial year 2021/22, the Gauteng Department of Community Safety conducted a study on the role and impact of KM in criminal investigation in Gauteng. The study acknowledged that criminal investigation remains critical in the criminal justice system. The quality and rapidity through which investigations are carried out is dependent on several components, one of which is eminent Information and Knowledge Management (IKM). This article looked at criminal investigation processes and systems to test if KM initiatives have been rolled out to support criminal investigators. This study was essential in examining the seamlessness of finding, organising, sharing and transferring diversified knowledge and expertise throughout the criminal investigation process within the South African Police Service (SAPS) in Gauteng. In context, the researchers examined the different knowledge dimensions amid criminal investigation as well as their alignment with the Basic Policing Model of the SAPS. A qualitative research **method** was utilised to collect data using semi-structured in-depth interviews with a sample size of 23 respondents within the detective service branch as well as the Directorate for Priority Crime Investigation (DPCI) and Crime Registrar. The study noted several **findings** pertaining to KM dimensions and their integration in criminal investigation. This includes a strategy with colossal emphasis on the Basic Policing Model as well as people, process and system.

KEYWORDS: Crime investigation, Basic Policing Model, Knowledge management

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I. INTRODUCTION

Baradari, Shoar and Nezafati (2021) lay emphasis on knowledge as a fundamental strategic resource with the ability to enable organisations in expanding and maximising competitive advantages. To do this it is essential for organisations to support knowledge creation, capturing assimilation and use (Baradari, Shoar and Nezafati, 2021). The extensive scope of literature has defined knowledge as a resource and its management as both process and practice. Knowledge management as a practice can be defined as a process that helps organisations find, select, organise, disseminate and transfer important information and expertise (Gupta, Iyer and Aronson, 2000). For Gupta et al. (2000), this information and expertise is necessary for enhancing the capacity of an organisation in problem solving, dynamic learning, strategic planning and decision-making. Gupta et al. (2000) indicate that to improve the effectiveness of knowledgeable experts, KM is essential in aiding organisations create knowledge databases and knowledge maps in order to drive the delivery of KM initiatives. Correspondingly, the Gauteng Department of Community Safety recognised that criminal investigation remains critical in the criminal justice system leading to the investigation of the role and impact of KM in criminal investigation in Gauteng. The quality and rapidity through which investigations are carried out is dependent on several components, one of which is eminent IKM. This article looked at criminal investigation processes and systems to test if KM initiatives have been rolled out to support criminal investigators in seamlessly finding, organising, sharing and transferring diversified knowledge and expertise throughout the

criminal investigation process. In context, the researchers examined the different knowledge dimensions and flows amid criminal investigations. This view assisted in analysing the role that KM plays to stimulate and encourage knowledge creation, knowledge storage, knowledge sharing and knowledge retrieval.

In the end, the article proposed a criminal investigations KM framework. This will assist the detective service branch in managing how knowledge is created, how criminal investigators retrieve and participate in knowledge sharing as well as enforcing robust systems to hoard and manage criminal investigations knowledge artefacts. The intended outcome framed the synergy between the two disciplines in order to understand at what level does or should KM play a role in assisting investigators throughout the investigation process.

1.1 The aim of the article

The aim of the article is to present the findings of the study on the extent to which the SAPS has integrated KM practices to aid criminal investigation processes and systems.

1.2 Research Objectives

This article sought to achieve the following objectives

- To determine the various knowledge dimensions within the criminal investigation process
- Investigate KM systems within the CJS or the SAPS in the investigation
- The role and impact of KM in criminal investigation in Gauteng
- To examine the synergy between criminal investigation models and KM initiatives to create knowledge value in the criminal investigation process, and
- To suggest strategies which can strengthen current KM systems, processes and procedures that can be integrated within criminal investigation.

II. LITERATURE REVIEW

The researchers have extrapolated literature from several information resources across electronic databases to transcribe this literature review. The literature covers the broad concept of KM, criminal investigation and further provides the linkages between KM and the detection process.

2.1 Knowledge Management

According to Kazak (2021), knowledge has become a significant output which calls for intensive management thereof. This is essential for the creation, capturing, sharing as well as utilisation of knowledge (Kazak, 2021). Although, there have been developments in KM body of knowledge, the definitions for KM in this article are taken from two researchers. According to O'Dell and Grayson (1998), KM is defined as a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organisational performance. Davenport and Prusak (1998:163) averred that KM draws from existing resources that an organisation may already have in place, good information systems management, organisational change management and human resources management practices. The process of KM involves three key pillars namely: people, process and technology.

2.1.1 People

According to Roth (2013), tools are helpful, processes are important, but when it comes down to KM, people are key. Chan (2017) denotes that KM is embedded in working processes and practiced by individuals at different organisational levels, spanning from the senior- most to junior- most personnel across an organisation. Chan (2017) continues to articulate that members at different organisational levels act as knowledge workers who harness and utilise the knowledge assets residing in their cognitive repositories (Sutanto & Jiang, 2013). Through shared inquiry, sharing, and assimilation of knowledge, innovations and desirable organisational outcomes are boosted (Kulkarni, Ravindran and Freeze, 2006). People are considered as the core of leveraging and the creators of knowledge for organisational competitiveness. Chan (2017) denotes that people's cognitive minds influence their approach to the processes of accommodating, validating and creating different ideas solicited from different sources.

2.1.2 Process

The American Productivity & Quality Centre (APQC) has engineered what is now a widely benchmarked knowledge flow process to illustrate how knowledge flows within organisations or processes. The APQC's Knowledge Flow Process Framework describes a seven-step cycle through which knowledge is created, identified, collected, reviewed, shared, accessed, and used (APQC, 2018). The KM processes are commonly defined as an array of designated practices facilitating the flow and added value of knowledge (Chan, 2017). Chan (2017) further elaborates that these processes help organisations identify and acquire knowledge

from several sources, but also assists employees explicate and disseminate knowledge in comprehensive formats. Moreover, valuable knowledge, skills and competencies are documented and stored in knowledge repositories assuming various forms, to enable employees to share and retrieve relevant knowledge for implementing associated tasks while assimilating new knowledge (Chan, 2017).

2.1.3 Technology

The role of technology has always been set to enable KM initiatives. According to Sousa and Rocha (2019), the rising interest for organisations to manage information in the direction of efficient use of resources is what mostly determined the creation of KM systems and industry 4.0 organisations (fourth industrial revolution), leading to intelligent organisations and knowledge revolution. Furthermore, Sousa and Rocha (2019) denote that technological infrastructure plays an important role in strategic KM in order to enable access, creation, organisation, sharing and usage of knowledge. Organisations invest in KM technology, such as document management systems which enables the presentation of captured knowledge in readily available forms for different users (Chan, 2017). Furthermore, Chan (2017) articulates that when fortified with collaborative-oriented KM technology, employees can connect to one another within and outside organisations for rapid knowledge flows with enhanced time value. With trust and reciprocity of exchange, employees share resembling identity over communities of practices to explore or exploit more new ideas and collaboration (Chan, 2017).

2.2 Criminal Investigation

Criminal Investigation can be defined as a collection of methods by which crimes are examined and criminals apprehended (Britannica, T. Editors of Encyclopaedia, 2017). In context, criminal investigators determine methods, motives as well as identities of criminals and victims in the examination process of crimes (Gehl and Plecas, 2016). This also includes searching for and interrogating the witnesses of crimes (Gehl and Plecas, 2016). Gehl and Plecas (2016) articulate that a good investigator needs to be aware of his or her own thinking, and that thinking needs to be a calculated process. This view expresses that to meet investigating challenges, police investigators must be trained and experienced in investigative processes in order to develop investigative tactics and prioritise responses (Gehl and Plecas, 2016). Gehl and Plecas (2016) articulate that these tactics include information analysis and planning skills which are broken out using illustrations of both tactical and strategic investigative thinking.

2.3 The link between knowledge management and criminal investigation

Knowledge management as a practice is aimed at supporting knowledge workers in seamlessly executing their knowledge work by building a strong knowledge base to support practices. Detectives can adopt KM practices in order to stimulate and encourage knowledge sharing in police investigations (Berg *et al.*, 2008). Mofokeng (2019) gave a lecture on the adoption of KM and knowledge exchange in the general detective section of the police service. The lecture underlined aspects that influence the success or failure of KM and knowledge economy initiatives as manifested in the South African Police Services (SAPS) (Mofokeng, 2019). These aspects include critical thinking, professionalism, mentorship, training and the organisational culture in the SAPS (Mofokeng, 2019). This view compliments Gehl and Plecas' (2016) view on criminal investigation and how it must be treated. Gehl and Plecas (2016) provide a description for criminal investigation. In their literature, Gehl and Plecas (2016) emphasise that criminal investigation must be treated as process, practice and thinking, for the reason that it is a multi-faceted, problem-solving challenge. This emphasises that within criminal investigation, there is an elite and intricate practice of knowledge creation, transformation and flow that must be considered for effective criminal investigation. Fahsing *et al.* (2004) and Puonti (2004) cited in Berg *et al.* (2008) indicate that police investigation is an information-rich and knowledge-intensive practice (Chen *et al.* 2002, Sheptycki, 2002 cited in Berg *et al.*, 2008). Therefore, in an investigative context, knowledge acts as an intervening variable in this transformative process of converting information via knowledge into evidence (Berg *et al.*, 2008).

Furthermore, the South African Police Services (SAPS) integrated into its Research Strategy a knowledge management agenda set to oversee the implementation of the SAPS repository for Policing Knowledge Management Practice (South African Police Service, 2017). This repository was envisaged to store, structure, enhance and disseminate knowledge on Policing Body of Knowledge (POLBoK) and Policing Centre of Excellence (POLCoE) (South African Police Service, 2017). While the strategy was set to develop a repository, it was also envisioned to assist the creation of novel knowledge and methods that will support the SAPS programmes; operational strategic priorities and organisational support priorities (South African Police Service, 2017). Moreover, the SAPS established Provincial Priority Crime Management Centres (PCMC) in each province accountable to the National Directorate for Priority Crime Investigation (DPCI) (SAPS, n.d.). PCMCs were established to ensure the effective and efficient preventing, combating and investigating of

national priority crimes as selected and set out in Chapter 6 A of the South African Police Service Act, (Act, 68 of 1995, as amended) (SAPS, n.d). Through the integration of KM across the DPCI, one of the functions of the PCMCs is to maintain an effective Management Information and Strategic Planning service for the DPCI within provinces (SAPS, n.d). This roll out is aimed at achieving the following functions:

- Gather intelligence;
- Verification, preliminary profiling of Incident reports received;
- Manage the flow of information in regard to successes achieved on the Provincial PCMC on the iBase System;
- Answer questions from the Portfolio Committee regarding the DPCI response to Priority Crime; and
- Create, manage and maintain all databases relating to all Priority Crime Investigations successes regarding the different Crime Desks (SAPS, n.d).

This literature provides us with background through which we can already identify the synergy between criminal investigation processes and KM. The first of which is the information that to fight organised crime and police criminal business enterprises, police officers need knowledge (Centrex, 2005 cited in Gottschalk, 2006). Knowledge is the most important resource in police investigations, and several police researchers make the case that successful investigation depends on knowledge availability (Gottschalk, 2006). The amount of information that police officers encounter during their work is astounding (Gottschalk, 2006). Such information is captured within police organisations in various forms (Gottschalk, 2016). The challenge for police organisations is how to surface information and knowledge and bring it to bear on the problems faced by police officers in a timely and effective manner (Gottschalk, 2006).

To support the afore-mentioned, Gottschalk (2016) in his white-collar crime research makes the contribution that examiners are to figure out what, how, who and why. Gottschalk (2016) continues to express that criminal investigation is like a puzzle of information pieces, which investigators must solve, if one piece is missing in a puzzle of thousands of pieces, investigators will never solve the crime. Secondly, Gottschalk (2016) expresses that knowledge workers cannot share knowledge freely, therefore, examiners must apply knowledge in a sequence of investigative steps, where witnesses and suspects are involved to the extent that the investigation makes progress. Maguire (2002) states that the investigative practice has two basic objectives or tasks: the generation of knowledge; and the production of evidence. According to Nordin, Pauleen and Gorman (2009), the investigation process comprises of the stages of information and knowledge generation constructed by the investigator in order to understand the crime situation.

Gottschalk (2016) also brings another interesting contribution to one of the main challenges in managing an organisation's knowledge – it is transferring knowledge from its source to its destination where need has occurred. Unlike tangible assets, the investigation unit often does not know if they have access to relevant knowledge and where it potentially is located (Gottschalk, 2016). The deployment of knowledge systems has always helped in building repositories for knowledge storage. According to Stevens (1995), law enforcement agencies implement systems that can be classified as: administrative systems; data retrieval systems; analytical systems and process control systems.

III. METHODOLOGY

The study utilised a qualitative approach to collect information in order to achieve the purpose of the study. The researchers used semi-structured in-depth interviews to source information from the respondents. A purposive sampling strategy was utilised to select 20 respondents who fit the purpose of the study, resources available and the constraints being faced (Patton 1990 cited in Emmel 2013) at selected police stations in Gauteng province following the corridor-based model. Additionally, 2 members in the DPCI as well as one member of the Crime Registrar components of the SAPS were interviewed to assess the integral function of KM for efficacious investigation.

Data collection

The interviews entailed asking each participant questions pertaining to the integration of KM in the criminal investigation component of the SAPS. Probing was also done where the response from the participants was not clear. Notes and recordings were taken during each interview. Each interview lasted an average of 60 minutes.

Data analysis

Recorded data was transcribed and categorised prior to the thematic analysis of the data. In addition, coding was followed as a process of grouping evidence and labelling ideas so that they gradually show a broader viewpoint. Finally, data was presented in the discussion herein.

IV. DISCUSSION OF FINDINGS

The following section presents findings of the study as well as discussions pertaining to the established findings. The research established two dimensions of the role and impact of KM in the criminal investigation process. These dimensions are the role and impact of KM to improve the performance of the detectives as well as the role and impact of KM as a directive and process associated discipline in the criminal investigation process.

4.1 Knowledge management dimensions

In an effort to understand the different dimensions and flows of knowledge across the criminal investigation process as well as test the applicability of KM to aid the process, the research evaluated the responses to align the role and impact of KM in line with the following KM dimensions. To begin with, based on the responses it is imperative to note that the role and impact of KM in the criminal investigation process was measured in alignment with two classifications. The initial category tested the role and impact of KM as a command related discipline towards aiding criminal investigation. Secondary, the research looked at the alignment of KM practices towards cultivating detective knowledge capabilities and performance. Ultimately, the research sought to inform the integration of KM practices in the detective service component of the SAPS in order to enhance criminal investigation and the efficacy of detection of crime in Gauteng. According to Ferreira, Camila and Pilatt (2013), for the KM agenda to be successful, some principles must be considered. Making reference to Nonaka and Takeuchi (1997), Ferreira, Camila and Pilatt (2013), note that the benefits of KM are intended at developing specific skills and innovative capacity transforming them into novel products, processes and leadership management systems. The following findings and arguments enlighten the integration of KM practices towards aiding the criminal investigation process.

4.1.1 Strategy

The structure of the guiding interview instrument sought to understand how integrated KM is within the criminal investigation process. Grounded by the responses, the research has found that the SAPS does recognise KM as a capable function in the institution, although this finds more expression in other components than others. Examples of components of the SAPS that have strongly integrated KM into their processes are the DPCI and Human Resource Development. Supported by the Civilian Secretariat for Police (2007) which has since advocated for KM capabilities as valuable towards the development of KM databases as well as informing the provision of constructive information that feeds into the SAPS planning. However, in the review of responses from both detectives and information management personnel in the provincial office of the SAPS, it is not clear whether the SAPS has a standing and orthodox framework for KM that informs streamlining its operations. Although the research strategy of the SAPS gives expression to the implementation of KM, still the information of the existence of a KM framework in the province remains ambiguous. The respondents indicated that supposing there is a standing strategic framework for KM in the SAPS, this has not been fully institutionalised and strategically communicated and its impact towards the criminal investigation process is not measured. Respondents highlighted that KM must be strategically aligned with the Basic Policing Model (BPM). The BPM is illustrated below:

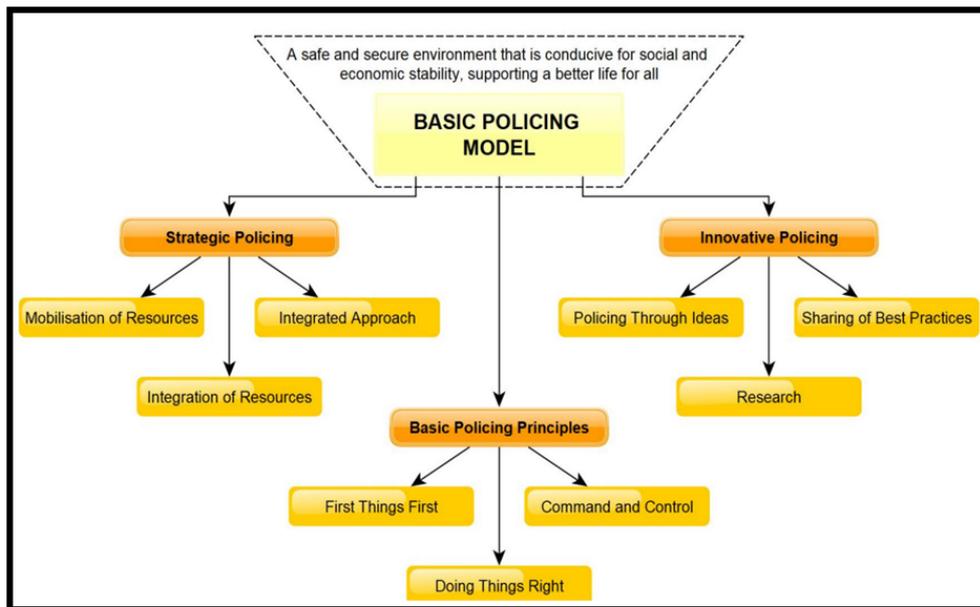


Figure 1: Basic Policing Model (SAPS, 2020)

According to the SAPS (2020), the basic policing model inspires the SAPS' strategic direction. It is a strategic response to the constantly evolving challenges that the organisation faces. Some constant challenges in the institutionalisation of KM in most organisations are associated with the misalignment between the KM programme as well as the overall organisational strategy. The research obtained similar challenges pertaining to the misalignment between KM and strategic focus of the SAPS towards effective detection. To fully integrate the IKM Programme within the detection process as well as the rest of the SAPS, it is imperative to align KM with the Basic Policing Model illustrated above. Furthermore, the findings of the study revealed challenges in the criminal investigation process that fall within the BPM. The study revealed that there are KM practices in criminal investigation, similarly, a reflection of these practices is expressed in the BPM. However, there is no expression of the KM programme across the component and in the BPM to support knowledge capabilities. The following findings confer practical KM practices in alignment with the BPM as a strategic model towards intelligent detection of crime. Although not renowned as KM practices, there is appreciation of the position of knowledge as a significant element towards successful detection of crime.

Based on the responses, the research began to map responses in alignment with the three core pillars of the BPM namely: Strategic Policing; Basic Policing principles; as well as Innovative policing. Before delving deeper into this alignment, the SAPS (2020) in its 2020-2025 strategic plan makes note of the President's call towards a multidisciplinary approach to addressing violent crime embodied with the Fusion Centre Model. This approach is set out to ensure the collaboration of all relevant stakeholders and the integrated utilisation of available information and resources. In context, this takes a KM façade which has not found expression in the institution's strategy for combating crime. Subsequently, corresponding to the strategic plan of the SAPS, the research notes the following findings:

4.1.1.1 Strategic Policing

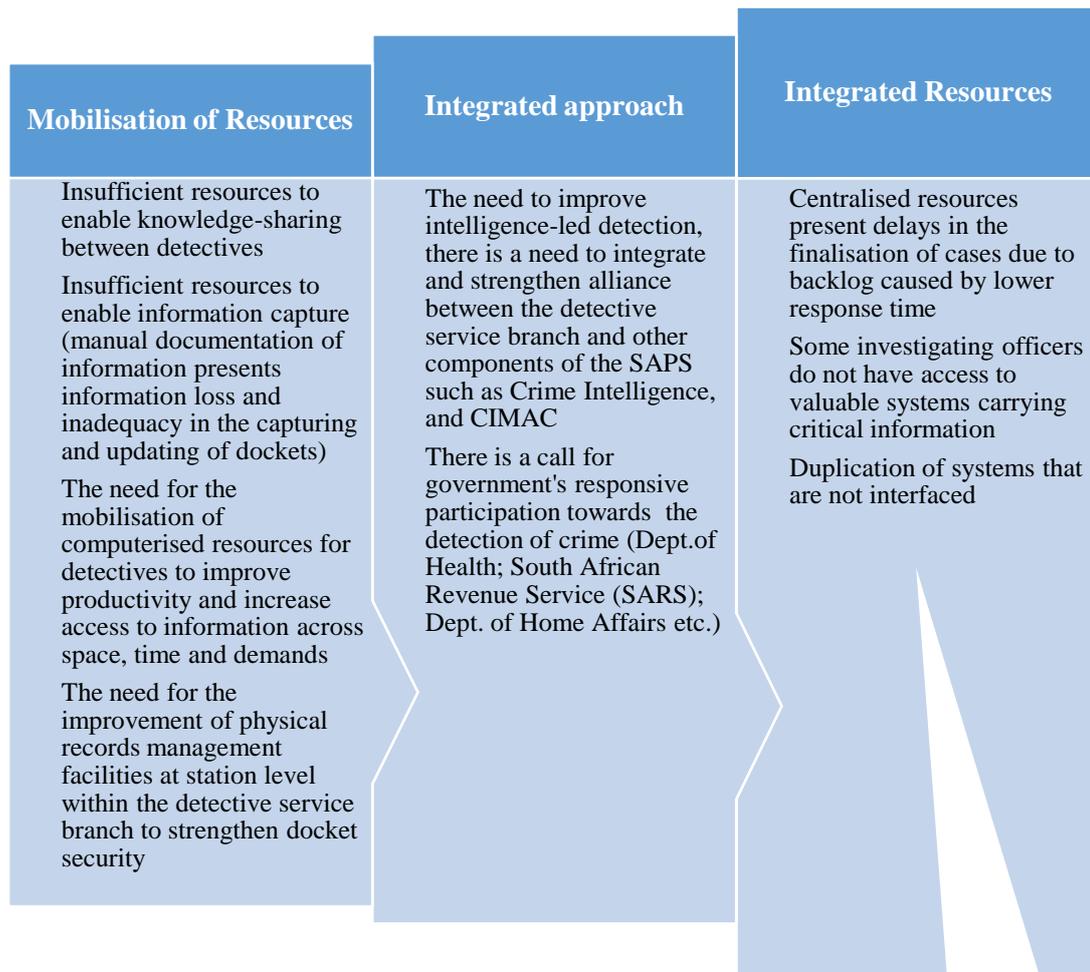


Figure 2: Strategic Policing

Based on the above illustrated findings corresponding to strategic policing, detectives call for the mobilisation of resources pertaining to KM within the detective service. Furthermore, the findings reveal that the delays in the finalisation of cases are caused by the lack of an integrated approach towards detection as well as decentralised services aiding detection. This has caused backlogs in the quantity of non-finalised cases. Respondents expressed that if the SAPS ensured that the detective service is well resourced, this would improve the quality of evidence gathering and management, enhance quick implementation of decisions and provide a clear chain of command. Furthermore, the respondents emphasise that the measurement of performance is based on the number of cases finalised as well as the quality of detection throughout the process, however, lack of resources causes delays in the finalisation of cases. Moreover, the respondents emphasise that crime is becoming increasingly dynamic, with perpetrators operating more intelligently with sophisticated modus operandi. Parallel to this, criminal investigation has evolved, it is therefore important to improve current systems in order to move with the times and meet novel investigation demands.

The respondents also emphasised the challenges pertaining to the strategic collaboration between government, other stakeholders and the SAPS. There is a call to strengthen strategic cooperation and partnerships between stakeholders such as the government and private stakeholders who are instrumental in criminal investigation. These strengthened partnerships will ensure that stakeholders are aware of the role of the police in the detection of crime, simultaneously, there will be a clear conception of stakeholders' role in the detection process. Furthermore, strategic partnerships and collaborative efforts will enable easy access to evidence and ensure that there are proper controls in place for the effective management of evidence. This will enhance the quality of criminal investigation.

4.1.1.2 Innovative policing

Policing through ideas

- Knowledge-sharing
- Parades
- Group meetings
- Detective networks

Sharing of Best practices

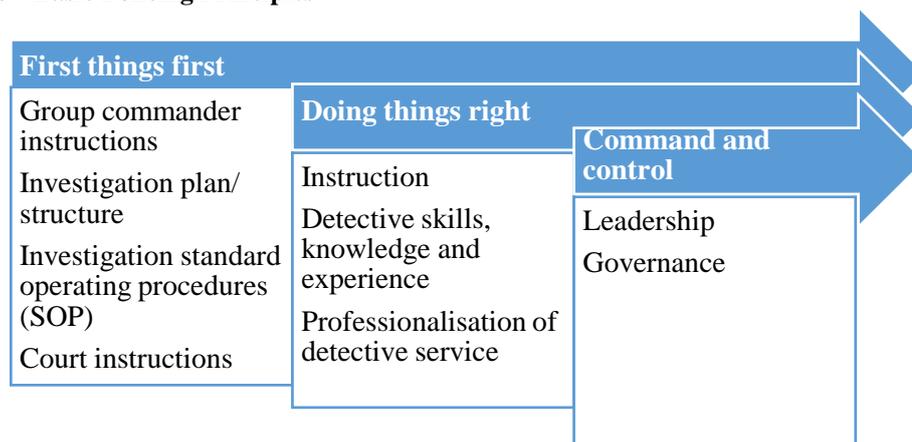
- Project Investigation
- Decided cases

The research probed further to understand the role of knowledge sharing in proliferating innovative detection of crime. The research examined the criminal investigation setting to determine whether it is a networked process. Although, other detectives in some police stations indicated that there is a lack of networking in the criminal investigation process, substantial responses expressed that the process is indeed networked. The smaller number of respondents who felt that there is inadequate networking gave reasons for those impressions. The respondents stated that this is due to the insufficient capacity of the staff complement in the detective service branch. For this reason, the respondents articulated that this insufficient capacity causes severe backlogs pertaining to the finalisation of criminal cases. As a result, the conditions limit the extent to which knowledge sharing through network can be realised. Some respondents also highlighted that management controls are a barrier to knowledge-sharing and networking. According to the respondents, management deem knowledge-sharing as a time-wasting practice.

Nonetheless, some detectives indicated that criminal investigation is not an ‘island’ practice. The respondents recognise that criminal investigation is a collaborative exercise where expert knowledge is needed to increase the effectiveness of investigation. Although, they indicated that it is imperative to measure the impact and reliability of networks. Respondents gave examples of networking and knowledge sharing occurrences. These include everyday morning parades, group meetings where cases are being discussed, collaborative work where cases link to similar suspects and circulation of suspects between police stations.

The respondents further expressed another important aspect that pertains to knowledge re-use. The respondents cited occasions where knowledge re-use is important. The respondents discussed the use of decided cases as references that provide historical evidence to substantiate current cases. The responses corroborate GoLegal Industry News and Insight’s (2017) expression on the effectiveness of sound case and precedent referencing towards strengthening arguments in court as well as swift investigation of cases. To add, analysts indicated that decided cases, comprising of similar facts assist in enhancing the detection of suspects through learning from the same modus operandi. In essence, the same suspect profile can be used to substantiate a detective’s comprehension of the offender, the crime scene and evidence. Furthermore, precedent referencing of decided cases helps to strengthen prosecutor arguments in court.

4.1.1.3 Basic Policing Principles



As illustrated in the diagram above, it is imperative to ensure that investigators comply with the basic principles of crime investigation. In responding to the overview of the criminal investigation process, the

respondents highlighted that, there are standards that must be followed when investigating a criminal case. Basic principles for detection are articulated in the SAPS's crime investigation standard operational procedures (SOP), such as internal standing orders and guidelines from the Criminal Procedure Act (Act 51 of 1977) as amended. The foremost aspect to note is when the complainant opens a case in the Community Service Centre (CSC) and subsequently the docket investigation process follows a specific knowledge flow pattern. This process commences by documenting the statements of key witnesses in the docket. Moreover, the relief commander inspects the docket for errors to ensure that all elements of crime are properly captured. The respondents also indicated that the document should be referred to the crime office for preliminary investigations to ascertain other aspects, which could have been omitted from the crime scene. Furthermore, the respondents further indicated that the document is referred to the detective commander or group commander for 24-hour inspection to assign dockets to an investigation officer, after which the docket is captured on the Crime Administration System (CAS). In addition, respondents highlighted the significance of investigating officers complying with the instructions that are given in the investigative diary (SAP 5). This presents a standardised process and procedure for the investigation of crime.

Based on the responses, the standardisation ensures consistency (Akyar, 2012) in carrying out investigation. Correspondingly, the respondents uttered that standardisation warrants proper controls for the criminal investigation process. However, some detectives argued that, instructions and SOPs in the detective service often limit investigators' abilities to apply their knowledge towards the case being investigated. While other detectives, particularly those in long service argued that the instructions by group commanders are guiding directives towards what investigating officers should take cognisance of without limiting detectives from applying their knowledge and intuition on cases. This corresponds to the following dimension of KM looking at detectives as knowledge workers.

4.2.2 People

In the context of the Fusion Centre Model, Africa (2020) suggests that there must be a fusion of individuals with the right combination of skills and experience, provided with the necessary financial, technical and material capabilities, and operating independently of the compromised extant security capabilities. According to the SAPS (2020), the description of the police service envisioned by the National Development Plan sees the SAPS as an "entity with well-resourced and professional police personnel. It envisions the SAPS as an organisation that is staffed by highly skilled officers, who value their work, serve the community; safeguard lives and property without discrimination; protect the citizens against violence and respect the rights to equality and justice." According to the SAPS (2020), to realise this, there is a need to establish and utilise a structured approach for the improvement of professionalism both internally and externally.

In the context of the abovementioned, the research probed the extent to which the institution values the significance of knowledge and expertise of members in the detective service and how much of this knowledge aids the efficiency of detection. The research sought to understand "*how dependent investigating officers are on knowledge and expertise for successful criminal investigation?*". The following responses were noted:

- For every investigating officer, knowledge and expertise are key for successful and well-rounded criminal investigation processes.
- Expertise and knowledge capabilities are of utmost importance. Criminals are becoming increasingly sophisticated; therefore, it is important to assign detectives with a broader scope of knowledge and experience to ensure detailed investigation of sophisticated crimes.
- Key to knowledge and expertise is understanding that the criminal investigation process is not a silo course of action, certain cases need specialised experts to identify gaps and feed knowledge into the process. This process is a collaborative process that brings in a diversified portfolio of expertise and knowledge such as medical knowledge and expertise, financial knowledge and expertise as well as telecommunication knowledge and expertise. All these key role players work in synergy with the detectives to provide specialised information and evidence-based advice on cases.
- Detectives who have been in longer practice use their experience to uncover unfounded cases in instances where people report false cases and give fabricated statements.
- Cases differ; therefore, it is important to identify members who are well vested in knowledge for particular criminal cases. The mapping and alignment of knowledge and cases will aid the efficacy of the finalisation of cases
- Skills, knowledge and expertise acquired over time enables detectives to go beyond instructions given to make sense of a case, connect linkages to identify and close gaps and finalise cases promptly. The approach of a case is from a 'puzzle outlook', it is pivotal that the assigned detective applies their knowledge and experience to contextualise the evidence.

Based on these findings, it is clear that the criminal investigation process relies on knowledge and expertise towards the efficacy of detection. It enhances the detective's ability in applying the right kind of knowledge to solve investigation puzzles. This is discussed below.

4.2.3 Process

To better understand the process pertaining to knowledge in the criminal investigation process, it is imperative to first understand the criminal investigation process. The research interrogated the criminal investigation process in order to understand information and knowledge flow processes which are covered in theme 2. The process is explained below with an illustration of the practical workflow corresponding to responses following the overview of the criminal investigation process.

4.2.3.1 Overview of the criminal investigation process

To better understand the criminal investigation process, the research has found through responses that it is pivotal to primarily observe criminal investigation as an information and knowledge-intensive process. According to Dean, Filstad and Gottschalk (2006), the amount of information that detectives encounter during the course of their investigation is astonishing, hence, the police investigation component epitomises an information and knowledge-intensive as well as time-critical process. The respondents explained that the core of investigating crime is established upon the gathering of information about a reported crime. Furthermore, the work of Gehl and Plecas (2016), provides a detailed account of the investigative process as a succession of activities such as the gathering of evidence, information analysis, the development and validation of theories, the apprehension and prosecution of crime suspects. This is in accordance with the SAPS' strategic emphasis for the detective service to be a factor towards the effective prosecution of crime through the investigation, gathering and analysis of evidence. According to the respondents, the basis of this progression of activities is in an endeavour to establish a reasonable ground for apprehension and prosecution. The process of investigating crime is subsequent after a crime has been reported. In the end, the respondents helped in establishing an understanding of the detection process, through highlighting three significant pillars through which extensive information flow can be observed. These pillars are illustrated below:



Figure 5: pillars of the criminal investigation process

Founded upon the responses, the research has determined two levels of investigation in the criminal investigation process. One is linked to the thinking and instruction giving process, while the other draws a parallel between instructions given and the execution of those instructions. These dimensions of investigation are in alliance with the account of Gehl and Plecas (2016), in postulating a discrepancy between investigative tasks as well as investigative thinking. The respondents stated that it is imperative to take note of these distinctions and levels of investigation so that the comprehensive role of IKM and its impact in criminal investigation in the SAPS is understood especially by them as detectives. In the context of the study, the core of the analysis was to have a handle on the function of information and knowledge as an essential drive for successful criminal investigation in the SAPS. In proportion to this objective, Gehl and Plecas (2016) define the investigative task process as one that focuses on the process of gathering information that feeds into the

investigative thinking process prior and post information gathering. While Gehl and Plecas (2016) explain the investigative thinking process as one that is associated with the information analysis process to develop investigative plans.

4.2.3.2 Data, Information, Evidence and Knowledge

When probing the criminal investigation process in the SAPS, it is utterly distinct that the course of action for criminal investigation is able to reflect the data, information and knowledge for a successful and all-rounded criminal investigation process. Although not a documented and orthodox framework in the SAPS, the criminal investigation process corresponding to the responses exhibits the Data, Information, Evidence and Knowledge (DIEK) model. According to Dammann (2018), this model outlines data as raw and unrefined symbols, which when contextualised become information. Moreover, Dammann (2018) suggests that information achieves the status of evidence in contrast to pertinent guidelines, while evidence is applied to test theories. Latterly, evidence is transformed into knowledge by attainment and consensus (Dammann, 2018). In the context of criminal investigation process illustrated in the Venn diagram below, the findings of the research show high levels of collaboration amongst components of the SAPS as well as external stakeholders to bring about intelligence-led investigation. Although, some police stations indicated that there are challenges pertaining to collaboration between the detective service branch and other components of the SAPS. While several respondents indicated that the collaborative efforts continually afford the conversion of data and instructions into evidence for successful investigations. These attributes of the DIEK model are discussed below.

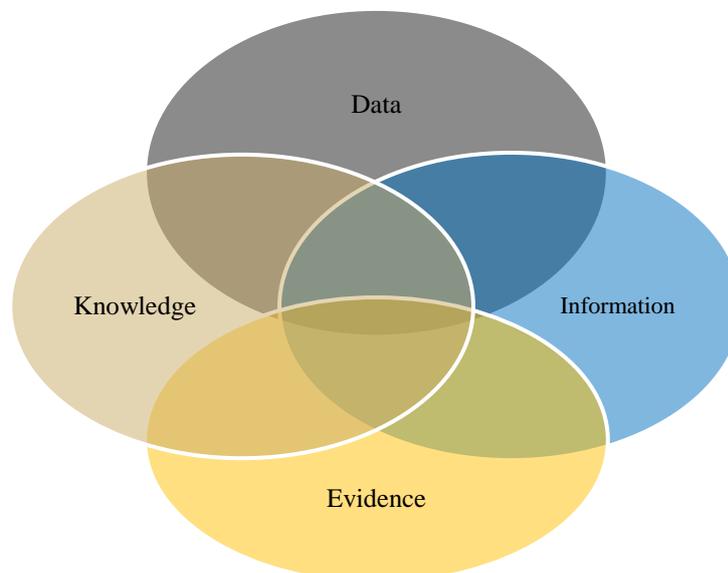


Figure 6: DIEK Model showing relationships between data, information, evidence and knowledge

The research has found that a further facade to criminal investigation is a data driven, evidence led as well as algorithmically dissected course of action to provide linkages to crimes. The SAPS in its 2020/2025 strategic plan is very clear on its efforts to ensure intelligence-led policing towards thorough and responsive investigation of crime (SAPS, 2020). MacGillivray (2011) enunciates that statistical thinking has become gradually substantial in society. According to MacGillivray (2011), society is becoming progressively reliant on information and evidence. Accordingly, the SAPS' response to crime has to appreciate the role of analytical thinking to investigate crime. The correlation between MacGillivray's (2011) statistical data investigation process as well as intelligent detection takes cognisance of several components which the research has corroborated grounded by the responses. These include the formulation of a problem, planning, collecting, organising, validation, exploration, analysis as well as interpretation and presentation of information from data. These components in the context of intelligent detection are parallel to Kearns and Muir's (2019) expression on the significance of data-driven policing to inform decision-making, enhance processes as well as ensure the proliferation of actionable intelligence. In more detail, the research has established through responses that for comprehensive precision in the criminal investigation process, members of the detective service rely progressively on the transformation of data and the analytical capabilities of the SAPS to support intelligent investigation of criminal cases. According to DPCI analysts interviewed, linkage analysis assists investigating officers by providing patterns of crime and modus operandi by criminals. According to the participants, these

patterns are further documented and communicated through comments on systems like Inkwazi and the Crime Information Management and Analysis Centre (CIMAC) at station level. Analysts informed the researcher that these linkages and comments tell a story about a crime scene and help narrow the scope of suspects for swift investigation and apprehension. The researcher further notes some functions on how data and information analysis assists detectives. These are highlighted below:

- supports operational members of the South African Police Service (SAPS) at station level;
- crime information and the analysis to further effective policing;
- provides statistical and factual products easy to utilise to combat crime;
- hot spot analysis;
- crime statistics reports;
- data integrity reports;
- Geographic Information System mapping;
- modus operandi analysis; and
- linkage and environmental analysis and profiling.

Consistent with the abovementioned, this study revealed several significant reasons towards aiding successful detection in the SAPS. One of the pivotal aspects of this is the ability to profile criminal cases. In profiling suspects as well as criminal cases, the respondents revealed this to be an important aspect in providing linkages between similar crimes, modus operandi, categories of crimes, suspect/criminal profiles and interlinked cases such as hijacking leading to murder. The respondents further highlighted that profiling enables technical and functional analysis of criminal cases and criminal activities. Even so, the research uncovered that currently, there is a lack of crime intelligence functions at the station level. Furthermore, even though the CIMAC is institutionalised at station level, it is worth noting that some functions of the component are not accessible at some stations. In the direction of safeguarding intelligence-led detection, it is important that the integrated approach as depicted in the SAPS Basic Policing Model (SAPS, 2020) is institutionalised across all components of the SAPS including the detective services. The research has already established that criminal investigation is certainly an information-intensive process. Therefore, rendering decision-making a key aspect of detection is important. Burcher and Whelan (2018) articulate on the importance of intelligence-led policing as a significant facet in the quest of placing crime intelligence at the forefront of decision-making.

On the cutting-edge of endeavouring to broaden the understanding of the basis of investigative decision-making, the study reveals the conceptual aspect of evidence to provide a baseline for decision-making in the investigation process. Abubakar *et al.* (2017) in the knowledge synthesis on KM and decision making provides a synopsis on the role of detection as a practise that uncovers confirmable truths that can solve problems. At the core of KM is its significance in supporting informed and evidence-based decision making in organisations. In the same context, the study revealed through responses that not only is the criminal investigation process an information-intensive course of action, but a decision-making course. The research probed further to understand what constitutes the process of criminal investigation as well as the rudiments preceding to apprehension. To respond to the question, the detectives and analysts established an understanding of the critical role of evidence in providing linkages to crime and swift apprehension. This will be understood in the next segment where the research delves deeper into the role of evidence gathering amid role players as well as discuss what role evidence plays in enlightening apprehension and prosecution.

4.2.4 System

The Gauteng Department of Community Safety appreciated the role played by technology towards the effectiveness of the Criminal Justice System (CJS). Mtombothi (2021) investigated the effectiveness of Information and Communication Technologies (ICT) in the CJS. In the review of ICT in the CJS, Mtombothi (2021) revealed challenges with the diverse technologies. Corresponding to this paper, respondents appreciate the role played by information management systems to aid successful criminal investigation. However, the respondents revealed that some of these are outdated. The respondents highlighted that they often experience challenges with the malfunctioning of some of the deployed systems. The respondents averred that system malfunction often causes delays in updating information and thus the finalisation of cases.

As articulated above, some of the concerns by investigating officers are associated with the centralisation of systems and the lack thereof to institutionalise systems at station level giving access to an equal number of detectives. As a result, there are delays in the finalisation of cases. Nonetheless, respondents highlighted those systems such as Criminal Administration System replaced by the Integrated Case Docket Management System; Analysis Notebook; Global Access BI; eNatis; Inkwazi; Circulation; CIMAC; and Person Identification and Verification Application (PIVA) amongst other systems which were not mentioned. As articulated above, the respondents note the lack of integration of systems as another emerging challenge. Furthermore, the respondents note that with no proper training on how to use the systems, the systems are

rendered redundant. Furthermore, some police stations revealed that there are no computerised resources such as computers to enable access to these systems. Where there are computers, these computers are centralised for usage by a considerable number of officers across an entire police station. Due to these issues, detectives' resort to manual methods of doing things. Manual documentation and management of records and docket also proved to have challenges. Although proper steps are being followed to ensure safeguarding of docket, some respondents indicated instances where the lack of proper management of docket led to misplacement and loss of docket. Even though, there are control registers to govern the movement of docket, due to the inconsistency of implementing effective records management measures, these challenges arise.

V. RECOMMENDATIONS

Based on the findings and discussion of this report revealing challenges with the practice of KM in criminal investigation, the following recommendations are documented for consideration.

5.1 Alignment between knowledge management practices and the organisational strategy

The SAPS expresses the following outcomes in its strategic focus for 2020-2025:

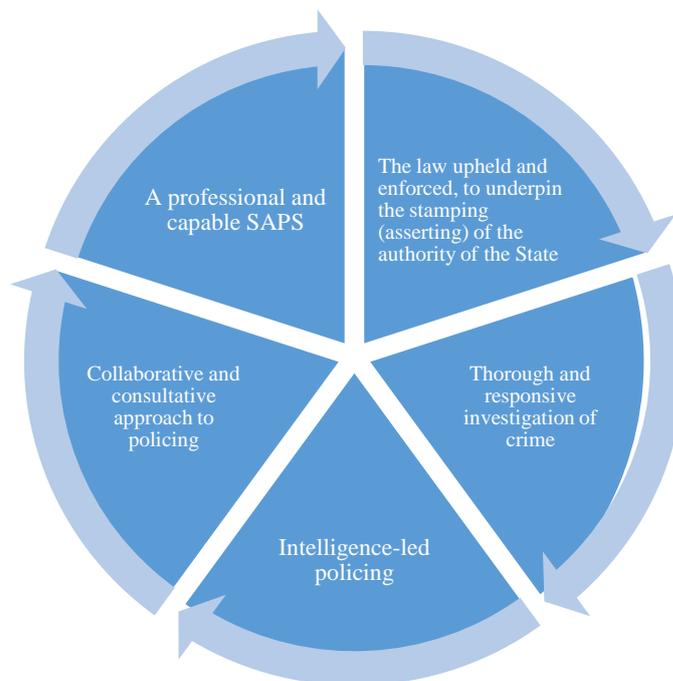


Figure 8: Outcomes of the SAPS 2020-2025 strategic focus

Subsequent to the aforesaid outcomes, the research has expressed KM capabilities which are significant towards the attainment of these outcomes particularly in the context of thorough and responsive investigation of crime. However, after careful review of the strategy in alignment with the responses, the research established that although there are notable aspects of KM to respond to the institution's strategic focus, there is a need to express the role and impact of KM towards aiding the attainment of the strategic outcomes of the SAPS. Furthermore, the strategy of the SAPS (2020) highlights the requirements to professionalise the SAPS ensuring that it is staffed by a highly skilled, knowledgeable and capable workforce. To do this, the SAPS will need to identify the knowledge gaps of its workforce and apply approaches for the analysis of knowledge needs of the institution so as to respond to its knowledge gaps. Furthermore, the strategic alignment between the SAPS' strategic focus and the KM agenda will assist in realising knowledge as a strategic input towards attaining these outcomes. Additionally, the alignment will assist in the establishment of a knowledge base to detail and authenticate best practices and lessons learnt in the SAPS aimed at harvesting and safeguarding institutional memory across the board.

5.2 Comprehensive study of knowledge management positioning in the SAPS towards the development of a KM Framework for the SAPS in Gauteng

Furthermore, although the study focused on a two-dimensional view of KM in the criminal investigation process, both in practice and empowerment of detectives as knowledge workers, there are still notable gaps. There is a need to expand the study looking at a broader view of the role of KM and its positioning in the SAPS. Correspondingly, it will be imperative to review its implementation in Gauteng. Similarly, although the findings reveal that detectives are not aware of a KM component within the SAPS, there is a need to continue the study to review the establishment of KM in the SAPS. Furthermore, the review of the implementation of KM to support critical components of the SAPS is necessary to measure the impact of knowledge capabilities on organisational performance and improving police performance. Finally, the significance of examining best practices and lessons learned on crime prevention interventions in the SAPS must find expression in an additional broader study. This will lead to the establishment of a framework for KM in the SAPS.

VI. CONCLUSION

To conclude, the research identified some notable gaps in the application of IKM throughout the study. These challenges brought a broader understanding of some challenges in the criminal investigation process. Some of these challenges are discrete challenges not connected to the KM's role in criminal investigation. However, the significance of uncovering these challenges pinpointed processes, systems and conditions in the SAPS that must be addressed to strengthen the all-rounded role of KM in the criminal investigation process. The research also appreciated the actual practice of KM as well as the influence of knowledge as a valuable input in aiding successful criminal investigation. These practices must be documented and expressed as strategic inputs towards successful detection.

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