

**A FRAMEWORK FOR SHARING INFORMATION AMONG CRIMINAL  
JUSTICE AGENCIES: A CASE OF UGANDA POLICE AND JUDICIARY**

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### DECLARATION

I, Ivan Mutekanga, do hereby declare that to the best of my knowledge, the work contained in this dissertation is entirely my own and has never been submitted by anyone to any institution/University before for any award.

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### APPROVAL

This dissertation has been submitted for examination with the approval of my supervision.

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## **DEDICATION**

I dedicate this book to my family for their patience during my studies, my lovely mum Margret Mutekanga, Daddy David Livingstone Mutekanga, My beautiful Wife Scovia Natukunda, My beautiful girls Hannan Omar Mutekanga and Ariana Megan Mutekanga. My Brother Dennis Mutekanga, my classmates Mugonza Geoffrey, Omagolo Ivan, Mutesi Carol and Kakembo Alex. To my supervisor Dr. Irene Arinaitwe thank you for your guidance and dedication towards the completion of this work. All Lecturers in the Department of Information System. With all the above mentioned, Thank you for the inspiration, encouragement amidst all challenge.

**“FOR GOD AND MY COUNTRY”**

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## LIST OF ACRONYMS

<b>CCAS</b>	Court Case Administration System
<b>CID</b>	Criminal Investigations Department
<b>CIMS</b>	Crime Information Management System
<b>DPP</b>	Directorate of Public Prosecutions
<b>e-GI</b>	eGovernment Interoperability Framework
<b>FPT</b>	Federal, Provincial and Territorial
<b>GDSC</b>	Government Data Standards Catalogue
<b>ICT</b>	Information and communication technology
<b>IGG</b>	Inspector General of Government
<b>IIF</b>	Information Interoperability Framework
<b>NIEM</b>	National Information Exchange Model
<b>ULII</b>	Uganda Legal Information Institute

## **ABSTRACT**

The study aimed at designing a framework for sharing information among criminal justice system considering Uganda Police and Judiciary. The criminal justice system in Uganda is a complex national enterprise consisting of many independent units of government (jurisdictions and agencies) that must coordinate their activities to achieve a common goal: an efficient and effective justice system. To effectively coordinate these activities, stakeholders must effectively share information. However, due to its diversity and decentralization, the criminal justice system lacks a common framework for sharing information. The study was guided by three specific objectives which were; to investigate the challenges of criminal information sharing between the Uganda police and the judiciary in order to determine requirements for a framework for criminal information sharing; to design a framework for criminal information sharing between Uganda police and the Judiciary; and to evaluate a framework for criminal information sharing between the Uganda Police and Judiciary

The study adopted a case study design which provided an exemplifying case and enabled an inquiry in information sharing practices and challenges between police and judiciary. The requirements from the results of the field study were used to extend the Portsmouth information sharing framework in order to derive a suitable one that explains the approach to criminal information sharing in the Ugandan context.

Generally, the most significant discrete challenges to information sharing within the sampled criminal justice agencies were processes and technology, individual unwillingness, and organizational unwillingness. Although there is no prescriptive answer to solve all of the information/sharing dilemmas within organizations, a number of options are available to mitigate the impediments by improving coordination mechanisms and the context in which sharing occurs. This framework combines the tested strengths of information sharing and technology (information systems) for effective information sharing among criminal justice agencies. The framework is generic and can be adopted for use by other agencies in transitioning countries with similar contexts as Uganda in terms of information sharing environment.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Introduction

Information sharing is an essential aspect in the administration of criminal justice systems. Inter-agency information sharing improves operational efficiency and effectiveness while at the same time ensuring safety and reliability (Hrdličková & Fang, 2021). The sharing of information among government agencies can help achieve important public benefits such as increased productivity; improved policymaking; and integrated public services (Yang & Maxwell, 2011). Information sharing, however, is often limited by technical, organizational, and political barriers (Ghobadi & Mathiassen, 2016).

Government Information Sharing initiatives attempt to unlock data on fragmented information technology infrastructures spanning multiple agencies, making it readily discoverable and accessible to authorized users for direct consumption or further processing (Hrdličková, & Fang, 2021). The lack of information sharing leads to case delay, fraud, misuse of assets, misuse of information and loss of value for money, increased cases of corruption, and reduced transparency (Manda, 2017).

### 1.1 Background of the Study

Criminal and civil justice administration is the most significant contributor to public affection, esteem, and reverence toward government (Freiberg, 2021). Communication and the information that goes with criminal and civil justice administration is the basis for all social order. As an index of societal values, the criminal justice system essentially depends on information networks

(Bright & Morselli, 2021). To this end, the underlying system of information sharing conditions how justice is administered.

At a glance the criminal justice system is a complex enterprise consisting of many independent units of government (jurisdictions and agencies) that must coordinate their activities to achieve a common goal: an efficient and effective justice system (Bulgakova *et al.* 2019). Law enforcement focuses on crime prevention and public safety; courts deliver justice outcomes in criminal and civil disputes, while corrections and jails are responsible for safety and effectively managing incarcerated or detained individuals (Tyler & MacCoun, 2015). This requires interagency information sharing to enhance effective service delivery.

Globally, it is acknowledged that the most significant advantage of ICT lies in its potential to increase efficiency, provide real time information for decision making and support organizations to improve their administration (Moshood, *et al.*, 2020). In the United States of America, the justice community has long recognized the benefits of using technology to their business processes and core missions (Završnik, 2021). In the 1990s, the justice community recognized the need to further improve performance and capabilities by augmenting its core business systems to include electronic information sharing (Rigano, 2019). This effort began at the state and local level; federal authorities then acknowledged and embraced it by forming the Global Justice Information Sharing Advisory Committee (known as “Global”)-a Federal Advisory Committee to the U.S. Attorney General. Global, has since fostered the development of national standards, the Global Information Sharing Toolkit (GIST) that promotes information sharing by federal, state, local, and tribal justice entities (Carter *et al.*, 2017). The entire justice community

has benefitted from the standards, guidelines, and frameworks that the Toolkit provides, which help to improve interoperability and information sharing capabilities at lower costs.

Notably, to share critical information among criminal justice agencies such as police, prisons and the judiciary, a framework must serve as a secure platform to share and exchange their information (Moreto & Burton, 2018). This provides investigative support services that in many cases, agencies would not otherwise receive (Hunter, 2019). Accordingly, information sharing is the cornerstone of understanding the issues and arriving at shared solutions (Rigano, 2019). The correct information enables partners to carry out evidence-based, targeted community safety interventions and evaluate their impact (Hunter, 2019). The improved outcome of an intelligence-led, problem-solving approach to community safety can only be achieved when partners have access to relevant, robust and up-to-date information from a broad range of sources (Bulgakova *et al.* 2019).

It is imperative that for the system to be efficient and properly managed, there must be seamless coordination between investigators, Prosecutors and Prisons, typical stakeholders in the criminal justice system (Bulgakova *et al.*, 2019). These collaborative efforts are often complex, requiring integration of the full range of multiple missions, occasional cross-functional approaches and adoption of centralized control efforts against common threats. Information sharing amongst these core justice sector institutions is hinged on the art and act of promoting functional working relationships among these multiple agencies to improve process outcomes at a reduced cost.

In Uganda, information sharing among criminal justice agencies with overlapping jurisdictions and shared responsibilities is not new. Information sharing has been enshrined in the broad concept of inter-agency collaboration, which contains various activities and arrangements such

as collaboration, coordination, mergers, integration, networks and partnerships (Schoemaker & Dell, 2021). The underlying objectives and expectations of information sharing in Uganda's justice system have ranged from reducing policy fragmentation and mitigating competition among agencies to enhancing efficiency and effectiveness, changing organizational and administrative cultures, and streamlining or improving parliamentary and executive oversight.

Relatedly, the use of information and communications technologies (ICTs) has been identified as one of the means suitable for supplementing the various reforms in convalescing the performance of the justice sector (Odima, 2017). The Government of Uganda has made strides in implementing e-Government to effectively utilize ICTs in governance (Moreto & Burton, 2018).

The justice players are manifested in a justice, law and order sector, which is, based on the Sector Wide Approach (Wagner, *et al.*, 2016). The basic principles of Sector Wide Approach are that communication, cooperation and coordination between institutions can significantly add value to service delivery within a sector. As a subset of e-Government, e-Justice has been introduced in Uganda to improve service delivery and collaboration between all justice players through ICTs and needs to be spear-headed at a sector level (Benyekhlef, 2015).

The Ugandan criminal justice system is complex. It's made up of many independent government agencies that rely on one another to achieve a common goal: to deliver efficient and effective justice to all (P'Odong, & Can, 2022). By employing the principles of enterprise architecture, justice stakeholders could have the agility to respond to new needs, introduce new technologies, and more readily comply with legal and regulatory changes (Schoemaker & Dell, 2021). To achieve this goal and to appropriately coordinate activities, agencies must be able to efficiently share information.

Currently, the standards for information sharing and capabilities of agencies fit remarkably well together in the Ugandan police and the judiciary, but gaps remain in the process (P'Odong, & Can, 2022). The law enforcement community is well represented in information sharing, but other areas, such as forensics and statistical data analytics, are not as well represented (Curtice,2021).

The work of justice community members at all levels of government has evolved without an explicit, well-defined architecture (P'Odong, & Can, 2022). Through a sense of goodwill and common purpose rather than design, a great deal of information sharing occurs among the various stakeholders in the justice system (Rukundo, 2020). These capabilities fit remarkably well together; as a result, the nation has taken great strides forward in sharing justice information. But the criminal justice system of Uganda still lacks a single, comprehensive picture of complex data, limiting the ability to make further progress in the utility of information exchange beyond organizational boundaries (Rukundo, 2020).

To achieve justice sector objectives, the individual functions independently performed by different agencies such as police, prosecutors and the prisons must be coordinated and adequately synchronized (Sandoval-Almazan & Gil-Garcia, 2020). However, agencies often do not always share relevant information with their counterpart agencies, perhaps due to security reasons or the fear of compromise (Završnik, 2021). Information sharing frequently focuses on how technology can be used to break down the so-called “stovepipes” that purportedly inhibit collaboration among government agencies (Wakabi, 2012). Therefore, the systematic flow of information between the Uganda police and the judiciary is crucial for efficiency and effective governance in cost, time and quality (Wakabi, 2012).

## **1.2 Problem Statement**

The criminal justice system in Uganda is a complex national enterprise consisting of many independent units of government (jurisdictions and agencies) that must coordinate their activities to achieve a common goal: an efficient and effective justice system (Rukundo, 2020). To effectively coordinate these activities, stakeholders must effectively share information. However, due to its diversity and decentralization, the justice system lacks a common framework for sharing information (Završnik, 2021). In addition, justice agencies do not always share relevant information with their counterpart agencies, perhaps due to security reasons or the fear of compromise (Završnik, 2021). In 2017, the Uganda Police Force launched the Crime Information Management System (CIMS), a centralized database for crime records. CIMS has been tipped to help and improve information sharing between different police units; however, it is not yet integrated with other criminal justice agencies (Uganda Police Force, 2017). Mores so, in 2019, the Uganda Judiciary launched the Electronic Case Management System (ECMS), to allow judges and magistrates to manage cases electronically (Uganda Judiciary, 2019). However, it is not yet integrated with other criminal justice agencies such as police.

Despite the efforts by the Ugandan government to improve information sharing among criminal justice agencies, challenges persist, including a lack of a common framework for sharing information (Završnik, 2021). This has led to silos of information and made it difficult for agencies to coordinate their efforts to investigate and prosecute crimes. A framework that adequately scales exchanges of information to maximize utility across organizational boundaries is essential. There is need to ensure institutionalizing a proper framework for criminal information sharing to enhance effectiveness and efficiency among the criminal justice agencies,

in this case, Police and Judiciary. Therefore, study sought to assess the state of the Ugandan criminal justice system agencies' data architecture and design a unifying complete national data framework for criminal justice and public safety information sharing in Uganda, considering the Enterprise Architecture (EA) principles for information architecture.

### **1.3 Purpose of the study**

The purpose of the study was to design a framework for sharing information between Uganda Police and Judiciary.

### **1.4 Research Questions**

- i. What are the requirements for information sharing among justice agencies?
- ii. What framework can be adopted to support sharing of criminal information between the Uganda police and Judiciary
- iii. To what extent is a framework for sharing criminal information between the Uganda police and Judiciary effective?

### **1.5 Specific objectives**

- i. To determine requirements for a framework for criminal information sharing.
- ii. To design a framework for criminal information sharing between Uganda police and the Judiciary
- iii. To evaluate the framework for criminal information sharing between the Uganda Police and Judiciary

## **1.6 Justification of the Study**

The study envisaged that a framework would support the justice system in further enhancing the information sharing process and help in making the wisest use of investments. According to Mosweu and Moswe (2018), the current standards for criminal information sharing and capabilities of agencies such as police, prisons and the judiciary fit remarkably well together, but gaps remain in the process. For example, the law enforcement community is well represented in information sharing, but other areas, such as forensics and statistical data analytics, are not as well represented coupled with insufficient guidance and data elements for exchanging unstructured data, such as video, images, and voice recordings (Rukundo, 2020).

More so, a lack of metrics and measured results make it difficult to make evidence-based investment decisions on the impact of criminal sharing information (Mosweu & Moswe, 2018). In an effort to close these gaps, a framework for understanding the current state of justice information sharing was developed. The framework provides stakeholders with a systematic method to identify and create cross-agency criminal information sharing plans.

Although agencies already share a great deal of information, a new study supported by the National Institute of Justice illustrates how a comprehensive framework for information sharing could benefit the justice system (Mosweu & Mosweu, 2018). In this study, the researcher will explore the “as-is” state of information sharing among the Ugandan police and the judiciaries, identify existing gaps, and then develop a framework for stakeholders to follow in improving their information sharing practices. Based on the above background, there is need for a framework to support sharing of information across agencies.

## **1.7 Significance of the study**

The significance of this study lies in its potential to revolutionize the landscape of the Uganda's criminal justice system by addressing crucial inadequacies in information sharing among its diverse agencies. Through the proposed framework for sharing information between the Uganda Police and Judiciary, this research aims to bring about multifaceted advancements:

By establishing a comprehensive framework for information exchange, this study endeavours to streamline the communication channels between agencies, reducing redundancies, and facilitating a more efficient flow of critical data. Such efficiency is anticipated to expedite decision-making processes and enhance the overall efficacy of the criminal justice system. A well-structured system for sharing information would lead to more informed, evidence-based decision-making, ultimately contributing to improved governance and greater public safety.

Addressing the existing gaps in information sharing, particularly in areas like forensics, statistical data analytics, and unstructured data elements, is a key outcome expected from this study. Bridging these gaps results in a more comprehensive and inclusive data exchange system among justice agencies.

The study provides a systematic method for stakeholders to identify and plan cross-agency criminal information sharing. With structured metrics and measured results, it could facilitate evidence-based decision-making for investments in information sharing initiatives.

A cohesive information-sharing framework not only streamlines processes but also fosters collaboration among different agencies, paving the way for better integration, resource

optimization, and a unified approach toward achieving common goals in the criminal justice domain.

The proposed framework aligns with the principles of Sector Wide Approach, aiming to significantly enhance communication, cooperation, and coordination among justice institutions. This undoubtedly adds value to service delivery within the sector.

## **1.8 Scope of the study**

This section of the study explains the extent to which the research area will be explored in the specific parameters within the study that will be operating by defining what the study is going to cover and what it is focusing on.

### **1.8.1 Geographical Scope**

The study was carried out on Uganda Police and the Judiciary. The study considered the information sharing between Police in Kira municipality and Courts within the same municipality located in Uganda Wakiso District. Kiira Municipality was selected because according to annual police reports of 2020 and 2021, puts Kira police Division as one of the crime breeding hubs in Kampala Metropolitan East and leading in Wakiso District. Therefore, police and judiciary handle many cases every year as a result of the crime influx from the population. Kira was also found to be accessible to the researcher.

### **1.8.2 Subject Scope**

The research study focused the designing and evaluating of a framework for sharing information between the Police and the Judiciary. The frameworks discussed in the literature review were the basis for designing the conceptual framework presented in chapter 2.

### **1.8.3 Time Scope**

The time dedicated to this study was one year. It was distributed among the following units; initial investigation, requirements gathering, and framework design and framework evaluation.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

This section presents the review of literature related to information sharing among agencies. The review was based on the objectives of the study to identify requirements for information sharing among agencies, to design a framework for criminal information sharing between Uganda police and Judiciary, and to evaluate a framework designed for criminal information sharing between Uganda police and Judiciary.

#### 2.1 Concept of Inter-agency Information Sharing

The concept of Inter-agency Information Sharing may have various meanings (Gil-Garcia, 2012). Inter-agency information sharing is the ability of organizations to work together to achieve common goals, as when policymakers emphasize the need for the law enforcement agencies to work together to investigate, prosecute, and judge criminal offenses. This approach emphasizes the outcome but does not resolve the conditions that make interoperability possible (Manda, 2017).

The European Interoperability Framework states that interoperability is possible through the “sharing of information and knowledge between organizations via the business processes they support, using the exchange of data between their respective information and communication technology (ICT) systems” (EIFv.2.0: 2) (Manda, 2017). Then the question becomes, what are the technical and institutional conditions that make such exchange possible?

The conditions of interoperability reside in both the characteristic of the systems in place in each agency and in the underlying infrastructure that supports system operations and communication (Ball *et al.* 2015). The ICT systems in place must have minimal functionalities to make interoperability possible (e.g., coherent data sets and accurate data collection), or procedures to extract and receive the data to be exchanged. Such requirements are minimal and may appear trivial, but their absence is one of the reasons for the many interoperability failures that affect the deployment of judicial chain systems.

Interoperability also depends on the existence and the quality of the infrastructure supporting the operations of the agencies and their business processes (Takahagi *et al.* 2015).). To develop a criminal justice interoperability platform, three types of infrastructure must be considered: technical, legal, and institutional.

Technical infrastructure consists of a shared set of standards, protocols, and gateways that link running applications, programs, and systems (Chen *et al.* 2014). It connects, supports, and enables the exchange of bits, data, and information between different technological and human agents. However, when ICT components are shared, there can be an exchange of bits and data between the systems, but their exchange may not comply with the existing legal framework. To guarantee the legality of the exchange process, there must also be a shared legal framework.

Legal infrastructure consists of shared legal principles and rules that, on the one hand, help agencies to communicate and interoperate (by establishing a national e-government standard), and, on the other, make the exchanges of bits and data effective from a legal standpoint (Lanzara, 2014). The transfer of bits (i.e., the technical side) becomes an exchange of judicial data and procedural documents only if the exchange is regulated and approved by law. Developing a

criminal justice interoperability platform also requires clear rules and features of the exchange (e.g., e-signature standard). Hence, an institutional infrastructure must be in place to coordinate these activities.

## **2.2. Challenges of Inter-agency Information Sharing**

To obtain a better understanding of information sharing, it is vital to investigate the practice of its dissemination empirically and quantitatively (Ball *et al.* 2015). With the several factors involved and the considerable diversity that may be present, the behavior of information sharing may be quite difficult to observe directly. One may, however, consider assessing the level of the interactions between the various actors who participate in the activity of information sharing (Takahagi, *et al.* 2015). It has been shown that the number of interactions is an indication of the information sharing between the players. Most organizations usually have certain forms of mechanisms for distributing information. However, this may only take place in the form of paper or as a policy that may later fail when a crisis occurs (Savolainen, 2017).

Zheng *et al.* (2018) state that there exists a financial risk that can occur due to inadequate funding and from factors such as delayed timelines of completion and anticipated program savings, which are quite significant in projects that entail government funding for information technology. Organizational commitment to privacy, on the other hand, is another hazard that may occur in data sharing (Bansal and Gefen, 2010). In this case, cloud services and new forms of technologies such as data mining may bring up complex privacy risks. This development may require basic proficiency and unwavering commitment to the entire concept of public policing. The concerns of the public may be quite broad and extensive, but they have been perceived to be quite unpredictable. Završnik (2021) points out that there are also risks that occur when

undertaking an examination of risk in projects and proposals in data sharing, despite the association of information sharing with numerous benefits.

The sharing of information is also widely practiced in the government, with the benefits extending to the citizens in terms of service access (Vernadat, 2017). Since the 1960s, there have been fears of the risks that would occur as a result of centralizing information, especially in the light of accusations of government data mining and unequally distributed access to databases. The hazards observed that would mostly occur were the lack of accountability and enforceable rights, and the inability to correct errors once data travels.

Additionally, there are also risks of the loss of control of data by agencies, legal complexity due to sharing among the Federal, Provincial and Territorial (FPT) agencies, incomplete records and the concern of greater transparency. Further risks are hostile users and decisions arrived at due to the utilization of data that are inaccurate and unrelated, without informing the public (Solove, 2021). Communication has been found to be one of the major challenge affecting police activities within the society during law enforcement. Police should communicate with their colleagues, different departments, and ranks. The police should be able to share vital information with the local community members.

The challenges of inter-organizational information sharing give rise to the concept of organizational boundaries. While exploring the meaning of this concept, (Zheng, *et al.* 2009) identifies vertical and horizontal directions for IS and multiple dimensions organizational, geographical, personal, developmental and process-related, and defines a theoretical framework for understanding the boundaries in IS initiatives. In addition, various IS challenges in government were identified and classified based on the case studies from China (Zheng, 2009)

resulting in a five-layered model:(1) Individual Expectations-expected benefits and risks; (2) Organizational Readiness– top management support, IT capacity, cost and security; (3) Inter-Agency Partnership-trust and compatibility; (4) Upper-Level Managerial Agencies-cross-agency collaboration and authority; and (5) External Environment-laws, policies and political awareness about IS.

### **2.3 Information Sharing Policy principles**

Where information sharing occurs, it is to be undertaken on a basis which achieves an appropriate balance between competing interests of the community, agencies and individual clients (Ball, *et al.* 2015). On that basis, the following high level principles drive this policy Framework and Standards. It is documented that agencies must act within the limits of relevant legislation; open and accountable processes and procedures are required for information sharing; information sharing should be consistent with appropriate minimum privacy standards as set out in the Australian Privacy Principles (APPs), which replaced the existing Information Privacy Principles (McCallister, 2010), procedures need provide for the security of confidential information; agencies sharing information do so within the context of information policies, procedures and practices, relevant legislation and privacy principles.

#### **2.3.1 Governance**

According to Thomson, *et al.* (2009) one aspect of governance is that the leaders of collaborating organizations should support collaboration. This implies that creating and maintaining collaboration requires leaders to play a critical role (Kaats & Opheij, 2014). Additionally, in order for collaborating parties to benefit from the collaboration and to better work together,

governance provides the involved parties in the collaboration with structure. This includes agreed upon rules of engagement, decision making, required information and flow, distribution of costs and benefits.

Maintaining mutuality, conflicts, functional relationships and order in a collaboration is also an important aspect of governance (Kwibisa & Majzoub, 2018). The authors explain that contracts are also the central issue of governance. This is because these bind the involved parties and create obligations (how to act, responsibilities of each party) in form of a formal, written between two or more parties, therefore, enabling cost and risk reduction. The theory suggests that the varying governance dynamics can make or break collaboration. Hence clear governance strategy helps to reduce anxiety and failure (Kaats & Opheij, 2014).

### **2.3.2 Administration**

To achieve the purpose that brought the organizations to the table in the first place, some kind of administrative structure must exist that moves from governance to action (Thomson *et al.* 2009). Administration is hence an important dimension in effective collaboration because collaborations do not administer themselves (Thomson & Perry, 2009). Some aspects to consider for effective collaboration in relation to administration include planning, clarification of roles, responsibilities, procedures and agreement on administrative responsibilities. This authors also believe that clear roles and responsibilities, the capacity to set boundaries, the presence of concrete achievable goals, and good communication are characteristics of administration.

Another aspect of administration is the regular monitoring and feedback between teams to establish achievement of collaborative goals is yet an important aspect in collaboration (Kaats &

Opheij, 2014). This is because monitoring and feedback of the performance of the collaboration is critical for continuous improvement. There is therefore a need for systems and administrative structures to move from governance to action.

### **2.3.3 Autonomy**

According to Thomson *et al.* (2009), autonomy is defining dimension of collaboration that captures both the potential dynamism and the frustration that is implicit in collaborative endeavors is the reality that partners share a dual identity: They maintain their own distinct identities and organizational authority separate from (though simultaneously with) the collaborative identity. They believe that participants of a collaboration should share a dual identity as this is a descriptive for a collaborative effective endeavor. However, there is always tension between self-interest and collective interest among collaborating organizations (McCallister, 2010). The willingness of pursuing collective goals and liability towards the collaborative undertakings of interest to different participants is what characterizes collective interest while maintaining the organization's own distinct identity from the collaborative arrangement and attaining organizational goals is what categorizes organizational self-interest. Another dimension to autonomy in relation to collaboration is power dynamics.

Savolainen (2017) argues that power is needed by organizations participating in collective activities to influence, access, and impact decisions regarding joint goals and the way they are carried out. Inter-organizational relations work more smoothly and efficient when the power balance is fairly divided, however, equality of power among actors present in a collaboration cannot be expected. Power struggle could potentially inhibit its effectiveness for the parties involved in the collaborative endeavor.

### **2.3.4 Mutuality**

Mutuality defined as values and beliefs about inherent value of collaborating for mutual gains (Savolainen, 2017) is a fundamental aspect in collaboration. Thomson *et al.* (2009) state that, although information sharing is necessary for collaboration, it is not sufficient for it to thrive. Mutuality has its roots in interdependence and shared benefits. The authors emphasizes that collaboration must yield mutual benefits, stressing the need for collaborator's interests to be directed towards a shared goal and collective benefits.

Understanding and mutual respect are therefore important elements in collaboration (McCallister, 2010). In order to maintain an effective collaboration therefore, involved parties need to recognize and respect differences between their organizations (i.e. culture and values) as well as create mutuality. This entails that the collaborating organizations should put the collective interests of collaboration above their individual interests as this is the key success factor for successful. The failure to establish mutuality in collaboration may therefore affect the effectiveness of collaboration.

### **2.3.5 Norms**

Trust and reciprocity are two important norms that are important in collaboration because one party must be willing to trust the other party and believe that it will work out up to the end (Ball *et al.* 2015). The norms dimension of this theoretical framework, therefore, relates to trust and the need for competence and consistency from representatives of collaborating parties. History is important in collaboration as it provides a foundation for both communication and trust in the collaborative arrangement (McCallister, 2010). Trust is, therefore, an important element in inter-

organizational collaboration as it can reduce costly governance mechanisms, act as a substitute for contracts and cause effectiveness in collaboration. It may be thought out that creating trust in a collaboration should be very simple, however, this is likely not the reality in practice.

#### **2.4 Criminal information sharing in the Ugandan context**

The Uganda criminal justice system is an adversarial one based on the English law. The accused is presumed to be innocent until proven guilty (Wagona, 2014). The burden is therefore on the prosecution to prove the guilt of the accused beyond a reasonable doubt. A criminal trial cannot be successful unless there is effective investigation. In Uganda, the main agencies working on issues connected with complex crimes include institutional authorities such as the Uganda Police, the Directorate of Public Prosecutions (DPP), the Inspector General of Government (IGG), and the Auditor General (AG), all of which have long histories and divergent tasks defined in the legislation (Jackline, 2016).

Each authority has its goals that differ from the goals of the other. For example, criminal investigations are mainly carried out by the police, whereas the Constitution of the Republic of Uganda empowers the DPP to direct the police to investigate any matter of criminal nature and report to the DPP expeditiously (Kpundeh, 2017). Given the increasing complexity of crimes and the need to share information between organizations, the investigation has moved a long way from the hierarchical organization of work toward inter-organizational and network-type collaboration.

In Uganda, there are several institutions clothed with the legal mandate to investigate with the scope of operation set out in the law establishing each institution (Komuhangi, 2005). More than

often, one institution may require the intervention of another in order to obtain sufficient evidence hence the need for investigative collaboration. Therefore, this sections briefly outlines some of the investigative institutions and their roles.

The Uganda Police is established under the Constitution. The functions of the police are laid down in Article 212 of the Constitution of the Republic of Uganda (Allan, 2017). The Police Act also re-echoes the functions of the police namely: to protect life and property; to preserve law and order; to prevent and detect crime; and to cooperate with the civilian authority and other security organs established under the Constitution and with the population generally, the police as the law enforcers are there to make sure that everyone including the police force itself follows the law at every step.

The Criminal Investigations Department (CID) is responsible for detecting, preventing and investigating crime, compiling information on criminals and gathering evidence for use in criminal prosecutions (Jackline, 2016). Other branches and units of the Uganda Police Force, include the Legal Department); the Child and Family Protection Unit, which deals with human rights and gender-related issues, the Police Anti-Terrorism Unit, responsible for such activities as diffusing bombs, rescuing hostages and apprehending "terrorists", the Mobile Police Patrol Unit (MPPU), which deals with border crimes, including smuggling; and the Special Force Unit, a paramilitary branch of the police trained in riot control and border patrol (Jackline, 2016).

The office of the DPP is also established by the Constitution. The DPP has the mandate over all criminal prosecutions in the country, including corruption cases (Kpundeh, 2017). This is derived from the functions of the DPP which include: to direct the police to investigate any information of a criminal nature and report to him or her expeditiously; to institute criminal

proceedings against any person or authority in any court with competent jurisdiction other than court martial to take over and continue any criminal proceedings instituted by any other person or authority and to discontinue at any stage before judgment is delivered any criminal proceedings instituted by himself or herself or any other person or authority; except that the DPP shall not discontinue any proceedings by another person or authority except with the consent of court. It should be noted that in exercise of the functions conferred on him or her, the DPP is not be subject to the direction or control of any person or authority.

In exercise of these powers, the DPP have regard to public interest, the interest of the administration of justice, and the need to prevent abuse of the legal process (Jackline, 2016). The DPP does not carry out investigation of cases. This is the function of the police. The role of the DPP is to guide and advise the police in the conduct of the investigations. The cases are reported to the police who carry out investigations and refer the case to the DPP for legal advice and to conduct the prosecution (Jackline, 2016). The prosecutions are done in the Magistrates courts, although the DPP has powers to commit any case to the High Court for trial.

## **2.5 Challenges in inter-agency information sharing in the Ugandan context**

It should be noted that collaborative investigation is an ideal form of investigation for Uganda in particular. In Uganda, there are instances where collaborative investigation techniques have been employed and have yielded positive results. However, there are instances where these techniques have been neglected leading to obtaining weak evidence which leads to wrong acquittal or convictions hence, defeating the ends of justice. Nevertheless, currently, no much attention has been paid to the phenomenon of collaborative investigation in Uganda as investigation largely remains the preserve of the police and the Director of Public Prosecution who tend to guard their

roles in investigation jealously. This leads us to challenges involved in collaborative Investigation; while taking a keen look at current criminal matters.

After undergoing lengthy, laborious and complicated investigation process, police investigators generally tend to develop a feeling of exclusiveness, and feel that the entire investigation domain is their responsibility (De Sisto, 2016). As a result any sort of advice and instruction from outside is taken as interference and unnecessary. Resistance is shown if they are told to bring more substantial evidence, or amend or improve the evidence collected. Police officers and organizations tend to take their entire work and especially the case handling as a professional and skilled job (China, 2015). Though they work and do the investigation within their own legal, and procedural codes, their practical and operational framework makes them believe that they have their own chain of command system which works as efficiently as prosecutorial agencies and which they believe, can provide them guidance and instructions.

Information Sharing raises the question of transfer: how to share knowledge and practices better across organizations? The sequential crime-investigation model is based mainly upon information exchange rather than on shared knowledge creation (Puonti, 2004). The distinction between information and knowledge is not well articulated in the investigation practice. The exchange of information from one person to another or across organizations is not sufficient for advanced collaboration, which implies constructing the object together (Schakel *et al.*, 2016). Collaboration calls for shared creation of knowledge in the heterogeneous investigation group. The divergent perspectives and knowledge resources are an opportunity for the creation of something more than any single participant could invent alone. The myth of the investigator solving crimes with intuitive methods alone is outdated. However, the challenge of collective

knowledge creation seems to be large: members of hierarchical organizations based on rigidly defined top-down relationships should share their information and knowledge that have been carefully kept inside the organizations for a long time (Schakel *et al.*, 2016). Moreover, when the collaborative investigation is successful, it results in increasing amounts of information in the form of documents and knowledgeable personnel.

The police feel frustrated when the prosecutors' case-disposition conflicts with the expectations of the police (Steve, 2011). It is totally disappointing for investigators if an arrested suspect is set free by prosecutors on the ground that the prerequisites have not been fulfilled for keeping the suspect in custody, or where investigatory activity despite the great deal of time and effort involved leads to the termination of the proceedings (De Sisto, 2016). . It was pointed out that in such cases prosecutors also feel stress, which may lead to negative influence on the working relation between the police and prosecutors.

## **2.6 Theoretical perspective**

### **2.6.1 Portsmouth Information Sharing Framework**

Portsmouth Information Sharing Framework is overarching framework which outlines the principles, standards of conduct and bases for using and sharing information by partner organizations working in Portsmouth (Abboud, 2021). This is an overarching framework which outlines the principles, standards of conduct, legal and justifiable basis for using and sharing information by partner organizations working in Portsmouth. Partner organizations in Portsmouth needed to share information so that they can work effectively together to achieve better outcomes for Portsmouth citizens. Partners acknowledge their moral and statutory

responsibility to share information carefully and responsibly and have developed the Framework to provide a common set of standards and conduct, to enable information to be shared fairly and lawfully and to promote their transparency and accountability.

The Portsmouth Information Sharing Framework sets requirements which need to be addressed when sharing information so that partners can effectively work together. Specifically, this Framework aims to support appropriate and necessary data sharing between organizations within Portsmouth and includes: the common purposes for holding and sharing information, the general principles of information sharing, the legal framework for sharing information, sharing information without consent and security of information.

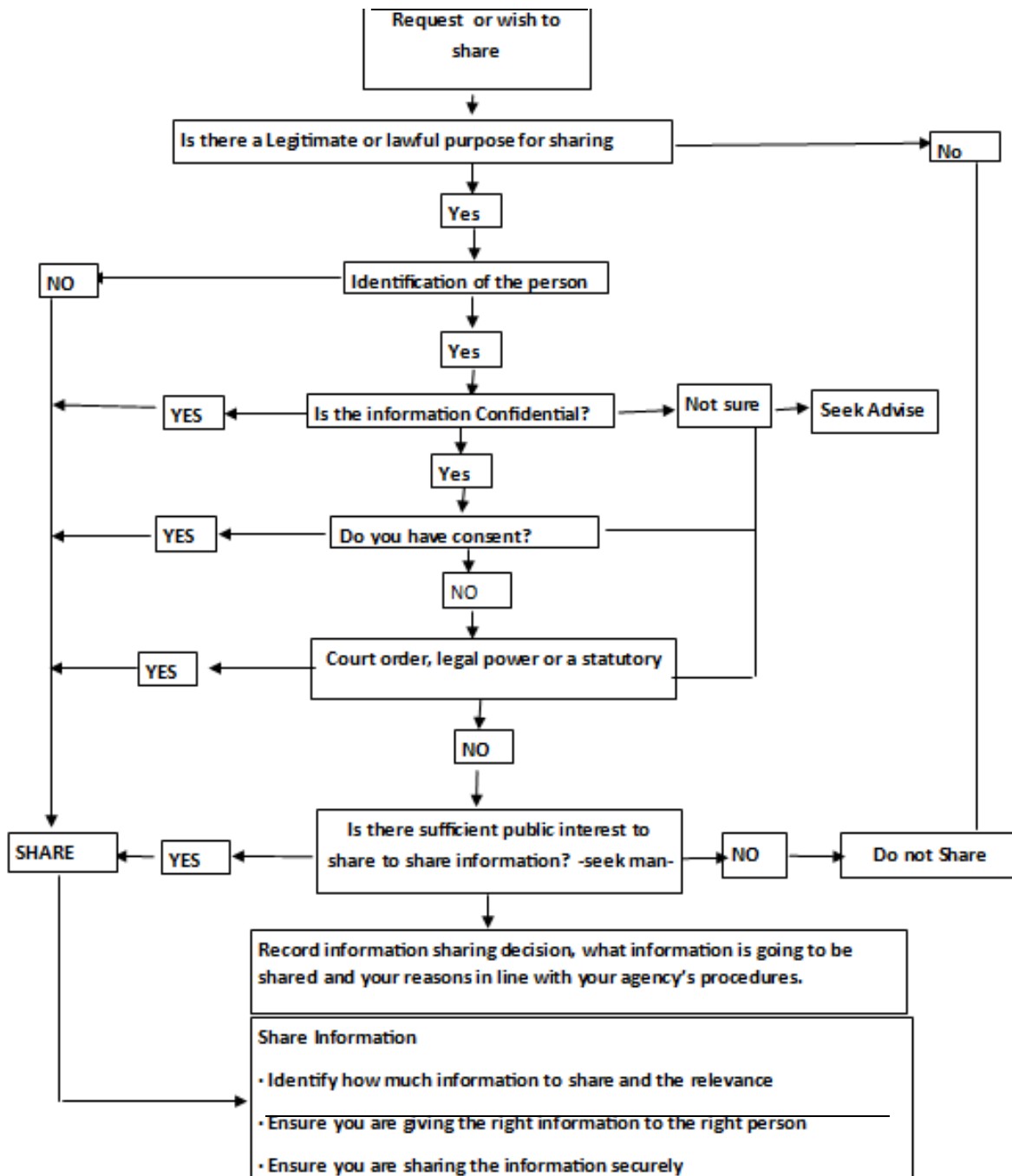


Figure 2. 1: Portsmouth Information Sharing Framework

## **2.6.2 Government Information Sharing Framework (Dawes, 1996)**

Dawes (1996) provides a learning cycle of government agencies involved in the IS practice. Based on the results of a survey conducted among public managers from the New York state government, the model assesses the extent to which the IS-related benefits and barriers identified from literature are reflected in the IS practice. It depicts how a sharing experience is triggered by a pressing problem suitable for an IS-based solution (Haass *et al.*, 2015). While participants enter the experience with their own perceptions of potential benefits and risks, the sharing experience is shaped by the underlying policy and management frameworks of the organization concerned. In turn, the sharing produces insights that help improve the framework promoting benefits and mitigating risks of future sharing experiences. The model also proposes information stewardship and usefulness principles to drive the definition of the IS policy frameworks.

Government Information sharing framework by Dawes, (1996) provides a learning cycle of government agencies involved in the IS practice and proposes information stewardship and usefulness principles to drive the definition of the IS policy frameworks. However, it doesn't highlight critical inter agency information sharing elements such as stakeholder wellbeing, rights of stakeholder, communication of purpose, operational to both the identified risk and costs vis-à-vis the expected response, sharing and coordination of protection data and information, personal information collected only after informed consent, individual awareness of the purpose of the information collection, a right to have information protected, protection staff equipped with information, training, maintenance, reduced duplication of information activities, scalability, availability of technology and architectural support.

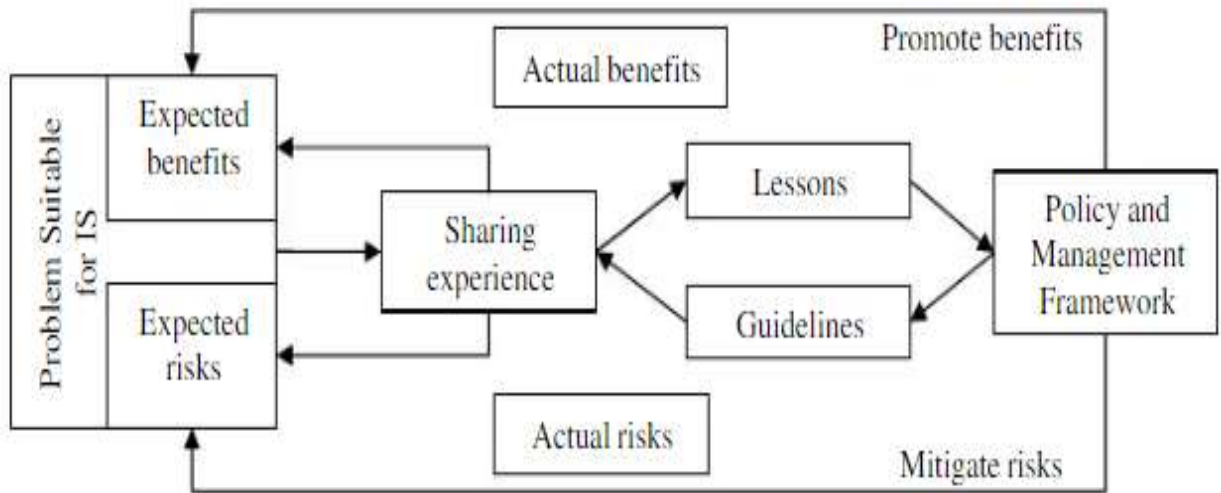


Figure 2. 2: Theoretical Model for Government Information Sharing (Dawes, 1996)

### 2.6.3 Government information sharing Framework (Landsbergen and Wolken, 2001)

The framework by Landsbergen and Wolken, (2001) draws on the authors’ work on interoperable systems in a networked environment. As shown in Figure 2, the model is structured into stages. At Stage 1, the model considers the experience of individual agencies that share information, as in the Dawes’s model. The learning processes of these isolated experiences are driven by the expectations of the benefits and risks of participating agencies. Based on the experiences by individual agencies, the model proposes to build the interoperability infrastructure in support of Information Sharing –Stage 2.

The framework comprises three elements: (1) Technical elements to ensure hardware and software compatibility, availability of standardized processes and the integration of best practices into such processes; (2) Interoperability Policy Architecture–architectural elements such as the meta-data infrastructure to facilitate access to information, inter-agency contracts to ensure the

fulfillment of information requirements among government agencies of the same (horizontal) or different (vertical) levels and others; and (3) Institutional elements such as the clearinghouse of best IS practices and formbook of contracts that identify different alternatives for allocating risks and responsibilities when sharing information.

Finally, Stage 3 identifies the required changes to be introduced in policies, laws, and management practices. In addition, the model identifies five IS-enabling tools: (1) meta-data to identify the presence, nature and quality of information; (2) laws and policies to specify timing and conditions upon which government agencies should make their information available; (3) economic and budgetary mechanisms to identify IS costs and benefits; (4) the extent of shared information; and (5) managerial tools to provide incentives and controls for IS processes.

The Government Information sharing Framework by Landsbergen and Wolken, (2001) doesn't highlight key elements of interagency sharing principles such as , wellbeing, rights, risk assessment, risk mitigation, communication of purpose, identified risk and costs vis-à-vis the expected response, personal information collected only after informed consent, individual awareness of the purpose of the information collection, adherence to international law and standards of information protection and security, a right to have information protected, training, reduced duplication of information activities, scalability, availability of technology and architectural support.

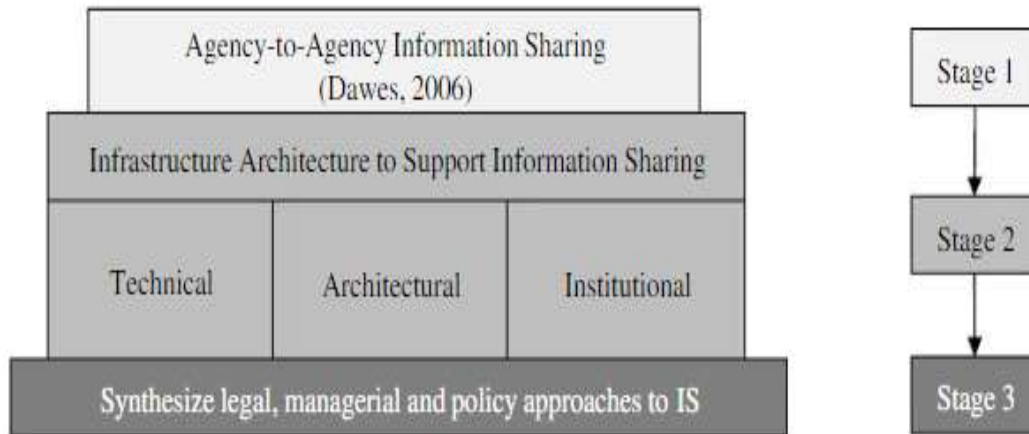


Figure 2. 3: Expanded Theoretical Model for GIS (Landsbergen and Wolken, 2001)

#### 2.6.4 Information Interoperability Framework (IIF)

The Information Level is defined by the Information Interoperability Framework (IIF) (Australian Government Information Management Office, 2006) to make sure that the information generated/held by the government is managed as a national strategic asset. The framework defines a plan for IS which includes critical actions (enablers) underpinning successful achievement of Information Interoperability: (1) forming partnerships with agencies that have business needs to share information; (2) using a ‘create once, use many approach with authoritative sources of information and clearly defined accountability and ownership arrangements; (3) adopting a common business language and standards-metadata, thesauri, information object standards and links to business process; (4) establishing appropriate governance arrangements, responsibilities, roles, compliance regimes, measures of success and best practice models; (5) understanding the policy and legal frameworks governing information exchange including legal issues, security checklists and privacy guidelines; and (6) developing

and using tools that facilitate the transfer of reliable information across agency boundaries in terms of best practice guides, Information Sharing protocols and Memoranda of Understanding.

Information Interoperability Framework introduces an information management lifecycle comprising the following steps:

**Planning;** Identification of information requirements relevant to any work activity – identifying potential uses of information, adopting standard concepts and definitions for recording data and items, and considering potential barriers to making the information available to others; ongoing third-party consent issues should be addressed.

**Create and Collect;** Information is created, collected, captured and accessed in a variety of ways and from a variety of sources to address business needs. Prior to creating new information holdings, agencies should undertake a review to determine if the information required can be sourced from an existing collection.

**Organize and Store;** Once created and collected, information should be organized and stored to enable consistent treatment (e.g. to best reveal patterns and trends) and to enable easy access to support business needs, such as applying appropriate metadata so that information can be annotated and discovered effectively.

**Access and Use;** Conditions related to access and use should ensure that information is used appropriately, carried out responsibly and consistent with the source. Access should be restricted to the authorized entities, considering existing legal, policy and administrative obligations.

**Maintenance;** the information lifecycle includes effective maintenance and disposal of information. With this in mind, agencies should liaise with information users when considering terminating, disposing of, or making content changes to collections, and conduct audits of security, quality, accessibility and compliance with access and use conditions.

The framework doesn't not clearly point out rights of stakeholders involved in information sharing, identified risk and costs vis-à-vis the expected response, individual awareness of the purpose of the information collection, training, minimal bias, reduced duplication of information activities, scalability and architectural support.



*Figure 2. 4: The Information Lifecycle in IIF*

### **2.6.5 E-Government Interoperability Framework (e-GIF)**

The e-Government Interoperability Framework (e-GIF) was defined by the UK Government to set out the government's policies and specifications for achieving interoperability and coherence in the usage of ICT systems across the public sector (Othman & Razali, 2013). The framework adopted some basic design principles like alignment with the Internet; adoption of XML as the

primary standard for data integration and management, and adoption of an Internet browser as a key interface. The framework also defines policy frameworks covering issues of security, confidentiality, delivery and others.

E-GIF is divided into two layers: (1) the framework itself which covers high-level policy statements, technical policies, and management, implementation and compliance regimes; and (2) the e-GIF registry which includes the e-Government Metadata Standard (e-GMS), the Government Data Standards Catalogue (GDSC), XML schemas, and the Technical Standards Catalogue (TSC). While the first layer is similar to the Technical Level and part of the Information Level of the Australian AGIF, there is no equivalent in e-GIF to the Business Process level. The second layer is a collection of concrete standards. The e-GIF Framework is presented in five sections: 1) Policy and Scope, Technical Policies 3) Implementation Support, 4) Management Process, 5) Change Management and Compliance Regime.

The framework doesn't clearly highlight the wellbeing and rights of stakeholders involved in the process of information sharing, elements of risk of harm such as Risk assessment and Risk mitigation are also not highlighted by the framework. Other elements left out include communication of purpose, operational to both the identified risk and costs vis-à-vis the expected response, sharing and coordination of protection data and information, protection staff equipped with information, reduced duplication of information activities and scalability.

#### **2.6.6 National Information Exchange Model (NIEM)**

The National Information Exchange Model (NIEM) (US Department of Justice and US Department of Homeland Security, 2010) was designed to develop, disseminate and support

enterprise-wide IS standards and processes across the whole of the justice, public safety, emergency and disaster management, intelligence, and homeland security enterprises at all levels and across all branches of the US government. It is a framework to identify IS requirements; to develop standards in support of IS; and to provide technical tools and assistance in the development, discovery, dissemination and reuse of information. The vision for NIEM is to be the standard of choice for intergovernmental information exchange, with common exchange formats, processes, tools and methodologies to improve public safety and homeland security. NIEM represents a partnership, initially between the US Department of Justice and the US

Department of Homeland Security and soon engaging other agencies covering justice, intelligence, immigration, emergency management, international trade, and infrastructure protection domains. NIEM introduces the concepts: Data Component, NIEM Core, Domain, Community of Interest (COI), and Information Exchange Package Documentation (IEPD)

## **2.7 Presenting a critique of existing frameworks**

This section summarizes the minimum shared principles that underlie and characterize the responsible handling, sharing, and use of data and information, regardless of their specific purposes, methods, or outputs (Jeng *et al.*, 2016). The principles are based on to critique the information sharing frameworks identified in literature above.

**Table 2. 1: Frameworks Comparison sheet**

<b>Principles</b>	Portsmouth Information Sharing Framework	GIS framework (Dawes, 1996)	GIS Framework (Landsbergen and Wolken, 2001)	Information Interoperability Framework (IIF)	E-Government Interoperability Framework (e-GIF)	National Information Exchange Model (NIEM)
<b>People-centered and inclusive</b>						
✓ Stakeholder interests	*	*	*	*	*	*
✓ Wellbeing	*			*		
✓ Rights	*					
<b>Do no harm</b>						
✓ Risk assessment	*	*		*		
✓ Risk mitigation	*	*		*		
<b>Defined purpose</b>						
✓ Communication of purpose	*			*		
✓ Operational to both the identified risk and costs vis-à-vis the expected response	*					
✓ Sharing and coordination of protection data and information	*		*	*		
<b>Informed consent and confidentiality</b>						
✓ Personal information collected only after informed consent	*			*	*	
✓ Individual awareness of the purpose of the	*				*	

information collection						
<b>Data responsibility, protection, and security</b>						
✓ Adherence to international law and standards of information protection and security	*	*		*	*	*
✓ A right to have information protected	*			*	*	
<b>Competency and capacity</b>						
✓ Accountability	*	*	*	*	*	*
✓ Protection staff equipped with information	*		*	*		
✓ Training						
<b>Impartiality</b>						
✓ Transparency	*		*	*	*	*
✓ Minimal bias	*					*
<b>Coordination and collaboration</b>						
✓ Maintenance			*	*	*	*
✓ Reduced duplication of information activities						
✓ Scalability						
<b>Infrastructure support</b>						
✓ Availability of technology					*	*

✓ Architectural support				*	*	*
✓ Institutional support	*	*	*	*	*	*

## 2.8 Proposed Framework

The study's choice to base the framework for criminal sharing among justice system agencies in Uganda on the Portsmouth Information Sharing Framework was justified through a detailed comparison analysis with other established frameworks. Table 2.1 evaluates various frameworks, including the Portsmouth Information Sharing Framework, GIS frameworks by Dawes (1996) and Landsbergen and Wolken (2001), the Information Interoperability Framework (IIF), E-Government Interoperability Framework (e-GIF), and the National Information Exchange Model (NIEM), on several crucial principles. The Portsmouth Information Sharing Framework showed strengths in several key principles:

**People-Centered and Inclusive:** It demonstrated a comprehensive consideration of stakeholder interests, wellbeing, and rights, ensuring a holistic approach to information sharing.

**Do No Harm:** It effectively addressed risk assessment and mitigation, ensuring that potential risks were identified and managed.

**Defined Purpose:** This framework communicated its purpose clearly, ensuring operational effectiveness and the coordination of protection data and information.

**Informed Consent and Confidentiality:** It emphasized collecting personal information only after informed consent and ensuring individual awareness of the purpose of information collection.

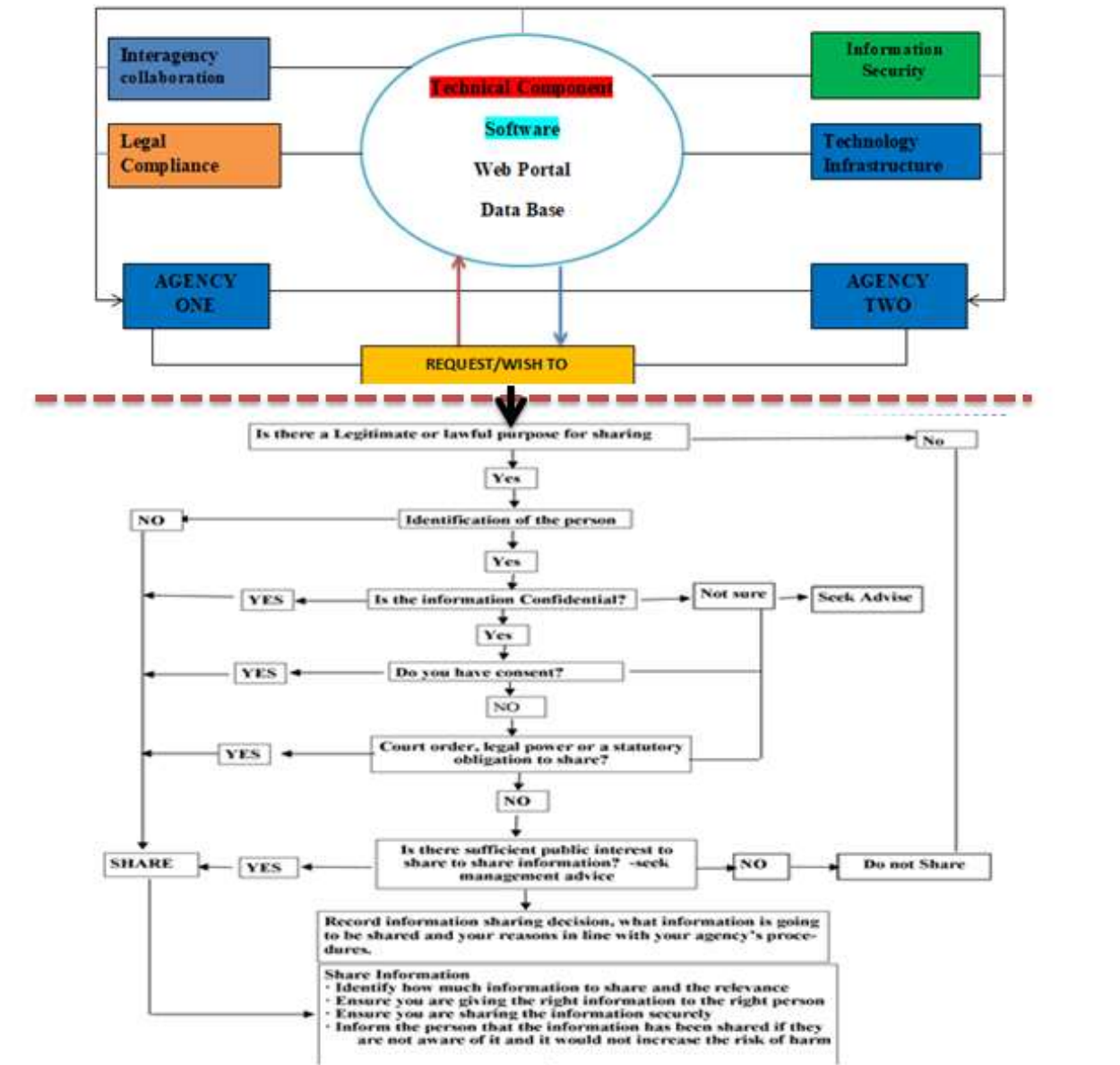
**Data Responsibility, Protection, and Security:** It adhered to international law and standards of information protection and security, protecting the right to have information safeguarded.

**Competency and Capacity:** It promoted accountability and ensured that protection staff were equipped with necessary information.

However, the Portsmouth Information Sharing Framework had identified gaps in several critical areas such as coordination and collaboration, infrastructure support, and scalability. These gaps included the absence of considerations for maintenance, reduced duplication of information activities, scalability issues, and infrastructure support for example technology availability and architectural backing.

The study, acknowledging the strengths of the Portsmouth Information Sharing Framework while recognizing these identified gaps, took a comprehensive approach. It leveraged the strengths of the Portsmouth Framework while addressing and filling the gaps identified in terms of coordination, collaboration, infrastructure support, and scalability. By modifying the Portsmouth Framework to incorporate these missing elements, the study aimed to create a more comprehensive and robust framework tailored to the specific needs of the Ugandan criminal justice system.

The justification for modifying the Portsmouth Information Sharing Framework stemmed from its strong foundational principles combined with the improvements needed to make it more applicable and effective in the context of the Ugandan justice system. This comprehensive approach aimed to ensure a holistic, efficient, and secure framework for information sharing among justice agencies in Uganda. Below is the modified framework in Figure 2.5



**Figure 2. 5: Proposed Framework**

The framework also highlights legal and justifiable basis for using and sharing information by partner organizations working in Portsmouth. The framework considers the principle of people-centeredness and inclusiveness including the stakeholder interests, wellbeing and rights. The do no harm principle is highlighted by the principle and risk assessment as well as risk mitigation

are emphasized by the framework. The framework considers communication of purpose, identified risk and costs vis-à-vis the expected response, sharing and coordination of protection data and information, personal information collected only after informed consent, individual awareness of the purpose of the information collection, adherence to international law and standards of information protection and security, a right to have information protected, accountability, protection staff equipped with information, transparency and accountability as well as minimal bias.

The framework introduces coordination and collaboration in terms of maintenance, reduced duplication of information activities, scalability. It also highlights infrastructure support such as availability of technology, Architectural support among others.

## **2.9 Literature Review Summary and Gap**

From the literature reviewed above, it is documented that information sharing components, procedure and principles are particularly important for technological systems that are implemented within organizations (whether or not they may also someday be intended for access by others, including members of the public). Through this lens, it is essential to take into account interactions between agencies, individuals and technology. Best practices here emphasize the advantages of a staged, iterative process that incorporates inclusion and feedback from key stakeholders (Zheng, *et al.* 2018; Ball *et al.*, 2015; Takahagi *et al.*, 2015; Savolainen, 2017). However, despite the wealth of information available from various studies and frameworks, there remain specific gaps that the existing literature doesn't completely address. The studies and frameworks examined in the literature review are situated in different contexts, potentially outside the operational scope of the Ugandan justice system. While they provide valuable

insights, the direct applicability and alignment with the Ugandan criminal justice environment, especially regarding the interaction between police and the judiciary, might be limited. There's a gap in the direct adaptation of these frameworks to the Ugandan context. The existing studies may not address the unique intricacies, legal structures, and cultural aspects that influence the functioning of the criminal justice system in Uganda. Although best practices emphasize stakeholder engagement and iterative processes, there's a gap in the literature concerning a specialized framework that specifically targets the interaction between agencies within the Ugandan justice system, particularly focusing on the police and judiciary.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter presents the methods that were used in this study and provides description of how the research was undertaken. The chapter also focuses on the strategies that were used to plan the study: the research design, population, sampling procedures, and data collection methods and tools.

#### **3.1 Research Methods**

Research method are a set of methods and procedures used in collecting and analyzing measures of the variables specified in the problem research, (Seawright *et al.*, 2014). There are various research methods for carrying out studies in information systems. These include;

##### **3.1.1 Phenomenological design**

Phenomenological studies examine human experiences through the descriptions provided by the people involved (Groenewald, 2004). These experiences are called lived experiences. The goal of phenomenological studies is to describe the meaning that experiences hold for each subject. This type of research is used to study areas in which there is little knowledge (Donalek, 2004). In phenomenological research, respondents are asked to describe their experiences as they perceive them. They may write about their experiences, but information is generally obtained through interviews. To understand the lived experience from the vantage point of the subject, the researcher must take into account her or his own beliefs and feeling (Groenewald, 2004). The

researcher must first identify what she or he expects to discover and then deliberately put aside these ideas; this process is called bracketing. Only when the researcher puts aside her or his own ideas about the phenomenon is it possible to see the experience from the eyes of the person who has lived the experience.

### **3.1.2 Case Studies**

Case studies are in-depth examinations of people or groups of people. A case study could also examine an institution, such as hospice care for the dying. A case study may be considered as quantitative or qualitative research depending on the purpose of the study and the design chosen by the researcher (Yin and Yin, 2009). As is true of other types of qualitative studies, for a case study to be considered as a qualitative study, the researcher must be interested in the meaning of experiences to the subjects themselves, rather than in generalizing results to other groups of people. Data is collected in case studies through various means such as questionnaires, interviews, observations, or written accounts by the subjects (Posavac, 2015). The researcher then analyzes these the collected information and tries to interpret the written comments. Content analysis is used in evaluating the data from case studies (Blatter & Haverland, 2012). Content analysis involves the examination of communication messages. The researcher searches for patterns and themes.

### **3.1.3 Action Research**

Action research is a type of research that seeks action to improve practice and study the effects of the action that was taken (Cohen, 2017). Solutions are sought to practice problems in one

particular setting. In action research, the implementation of solutions occurs as an actual part of the research process. There is no delay in implementation of the solutions.

### **3.1.4 Grounded Theory**

Grounded theory out of many discoveries or construction theories and their data obtained systematically with the help of comparative analysis (Glaser & Strauss, 2017). The methodology after revision should be more flexible and widely adopted to assume reality of external world. This may include qualitative data, interviews, and review of records, surveys and observations (Engward, 2013). This research places priorities on study phenomenon over method of study, the researcher role are important in creating categories and interpreting data beside strategies as tools or prescriptions.

### **3.1.5 Design Science Research**

The goal of a Design science research (DSR) project is to extend the boundaries of human and organizational capabilities by designing new and innovative artifacts represented by constructs, models, methods, and instantiations (Hevner *et al.*, 2004, Gregor & Hevner 2013). DSR aims to generate knowledge of how things can and should be constructed or arranged (i.e., designed), usually by human agency, to achieve a desired set of goals; referred to as design knowledge (DK). For example, DK in the Information Systems (IS) discipline includes knowledge of how to structure and construct a database system, how to model business processes, how to align IS with organizational strategy, how to deliver data analytics for effective decision making (Becker *et al.* 2015), as well as how to use information technology to support sustainable practices (Brocke & Seidel 2012).

The environment defines the problem space in which the phenomena of interest reside. It is composed of people, organizations, and existing or planned technologies (Wieringa, 2014). In it are the goals, tasks, problems, and opportunities that define needs as they are perceived by stakeholders within the organization. Needs are assessed and evaluated within the context of organizational strategies, structure, culture, and existing work processes. They are positioned relative to existing technology infrastructure, applications, communication architectures, and development capabilities (Bisandu, 2016). Together these define the "research problem" as perceived by the researcher. Framing research activities to address real stakeholder needs assures research relevance. The knowledge base provides the raw materials from and through which DSR is accomplished. The knowledge base is composed of Foundations and Methodologies.

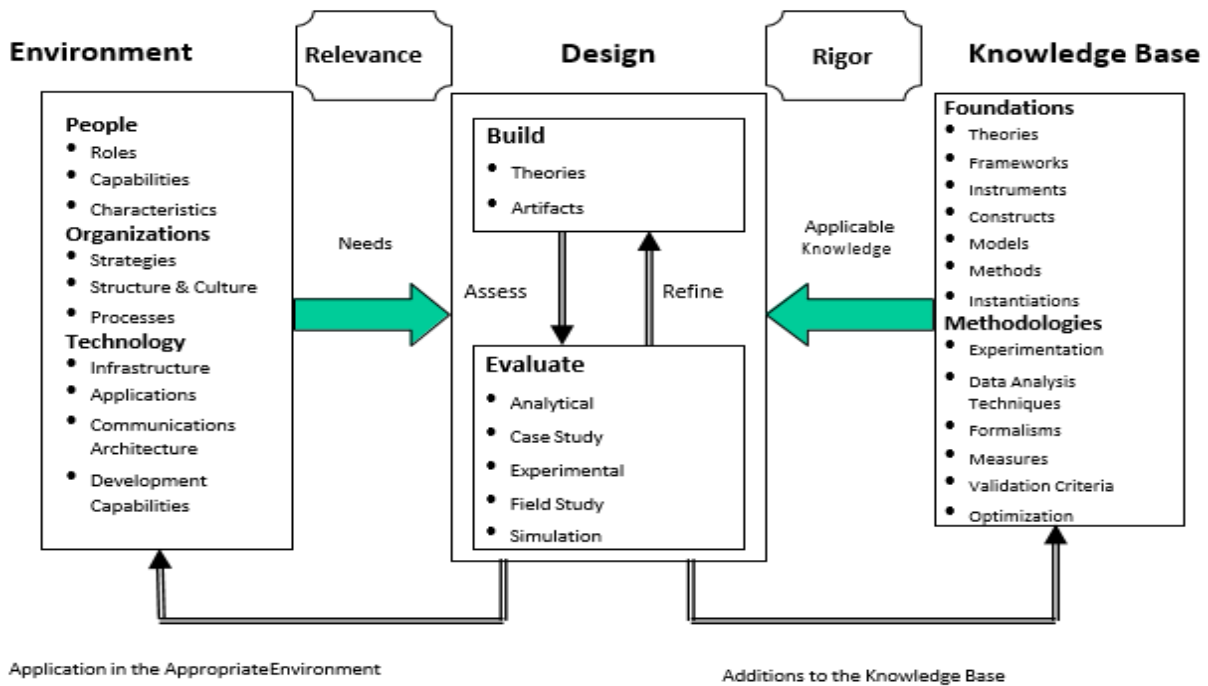


Figure 3. 1: Design Science Research Framework (Adapted from (Hevner et al., 2004))

### **3.2 Adoption of a Research Method**

In this study the researcher used a case study research design to allow a comprehensive investigation of information sharing practices, to examine real instances, processes, and challenges encountered during the sharing of information, which aided in formulating a more practical framework for the justice system. Case study is a research method that involves an up-close, in-depth, and detailed examination of a particular case (Thomas and Gary, 2011). As revealed by Yin and Yin (2009), a case study helps to provide an exemplifying case. In this case, the justice agencies (Kira police and judiciary) served as the case study for study for investigation. Qualitative data collection methods were used and these included interviews, observations and document reviews. This is because the research design allowed the researcher to interact with the respondents face to face so as to collect the first-hand information about information sharing practices in the justice system considering police and the judiciary.

Case study was used as an inquiry to investigate information sharing practices and challenges between police and judiciary. Case study was used to collect data in depth and within its real-life context, since the phenomenon of information sharing is not clearly evident and the researcher has little control over events (Yin & Yin, 2009).

The study focused on top actors in criminal justice agencies of Uganda. The study focused on actors involved in the process of information sharing. Besides a listing of all the actors involved, the researcher was interested in the actors' characteristics: challenges faced in information sharing, and their particular motivations. Based on the information gathered, the framework was developed to guide information sharing between justice agencies with specific reference to police and the judiciary.

A case study is presented as an empirical description of a contemporary phenomenon within its real-life context, and it is typically based on a variety of data sources (Yin, 2009). In design of frameworks, case studies are used as grounds for application and evaluation of an artifact to a real-world context. Costa *et al.*, (2016) in their study “situating case studies within the design science research paradigm”, argue that case studies can be used not only after the development of the artifact but also for an ex-ante evaluation, by evaluating meta-artifacts that will function as an input to build the final artifact.

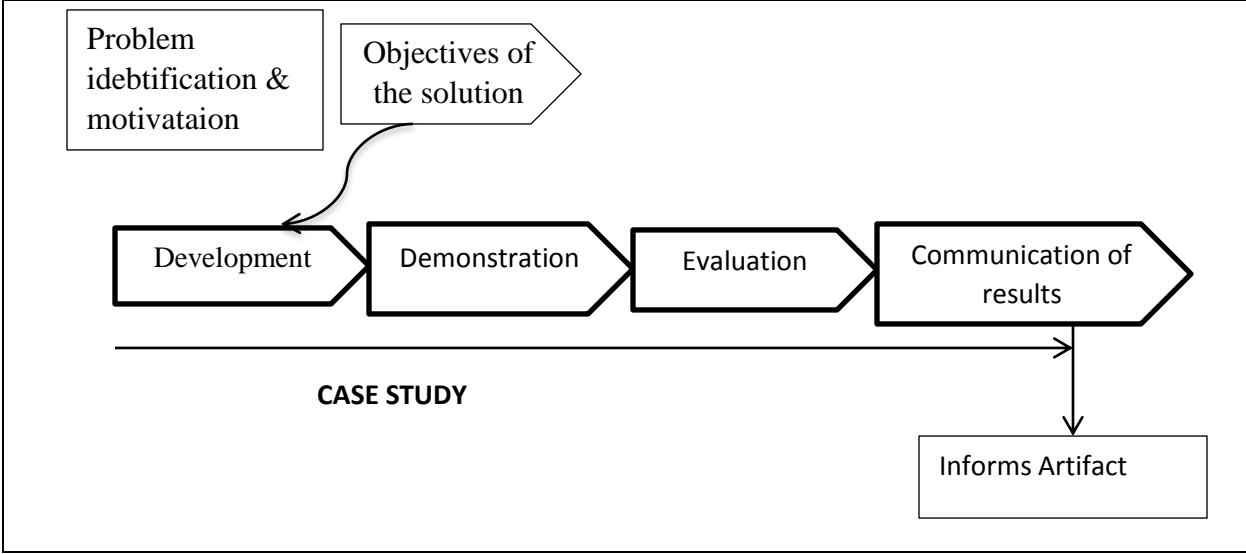


Figure 3. 2: Application of case study in the design of the framework

The figure above shows how case study is situated within the development of a framework. Costa *et al.*, (2016) argue that case studies can be used not only after the development of the artifact but also for an ex-ante evaluation, by evaluating meta-artifacts that will function as an input to build the final artifact. In this study, case study was used to collect data on the challenges faced in information sharing, requirements for information.

### **3.3 Data collection procedure**

#### **3.3.1 Target population**

Population is a well-defined collection of individuals or objects known to have similar characteristics (Ngabirano, 2012). Population is any complete group that shares common set of characteristics and interest. In research, the target population is the population which the researcher wants to generalize the intended findings. The study considered officers from Kira municipality Police and judiciary. Senior officials within the police and judiciary possess extensive expertise and decision-making authority within their respective domains. By targeting these individuals, the study gained access to a wealth of knowledge and experience crucial for understanding the intricacies of information sharing processes and challenges within the system.

#### **3.3.2 Sampling technique**

A non-probability sampling method was used in the study, and in this case, purposive sampling method was used. Agyedu *et al.*, (2010) suggested that in purposive sampling, the researcher uses his or her own judgment about which respondents to choose, and picks those that meet the purpose and objectives of the study. Purposive sampling was used to select these respondents because of their knowledge and experience on assessment of information sharing between the police and the judiciary. These individuals also have special qualification and therefore these categories of respondents are expected to provide in-depth information about the topic under study which assisted in designing a framework. Therefore, purposive sampling was used because not all officials are directly involved in information sharing. It is aimed at getting as more relevant and valuable information for the research as possible.

### 3.3.3 Sample size determination

Sample size in statistics and quantitative research methodology refers a set of individuals or objects collected or selected from a statistical population by a defined procedure (Peck *et al.* 2018). According to Katamba and Nsubuga (2014) sample size is a portion or subset of the total population.

In all of these study designs, an important principle to keep in mind is that of saturation. In qualitative research, the goal is to reduce the estimation error. Saturation has attained widespread acceptance as a methodological principle in qualitative research (Saunders *et al.*, 2018). Saturation, as a methodological principle in qualitative research, refers to the point at which new information or data ceases to provide additional or substantially different insights (Saunders *et al.*, 2018). It is commonly taken to indicate that, on the basis of the data that have been collected or analyzed hitherto, further data collection and/or analysis are unnecessary.

The researcher used the principle of saturation in order to ensure that the collection of additional data does not provide further insight into the topic of investigation (Saunders *et al.*, 2018). To relate to economics, the principle of diminishing returns applies here, with increasingly large samples; more data does not necessarily lead to more new information, but rather a repetition of the same information (hence saturation).

For this study, the researcher purposively used a sample of 16 people who included Police officers (08), Office of the Director of Public Prosecutions (ODPP) (02), and Judicial officers (06). The researcher focused on officers who are involved or are well versed with the information sharing phenomenon. The sample frame is tabulated as below.

**Table 3. 1: Showing the composition of the sample Frame**

<b>Category of Respondent</b>	<b>Sample size</b>	<b>Sampling technique</b>
Police Officers	8	Purposive
Office of the Director of Public Prosecutions (ODPP)	2	Purposive
Judicial Officers	6	Purposive
<b>Total</b>	<b>16</b>	

### **3.3.4 Data Collection Instruments**

Data was collected using interview, observation and documentary analysis methods.

#### **Interview Guide**

An interview is a purposeful face-to-face conversation between an interviewer and interviewee (respondent) (Palmer *et al.*, 2015). The researcher preferred to collect data by interviewing the senior officials because this method assisted in collecting data through face-to-face interviews. According to Kothari (2014), interviews are a conversation with purpose and therefore, data can be collected easily. Interviews also have greater flexibility and the opportunity to restructure questions. The interview guide was used, and open-ended questions were set before the researcher goes into the field.

#### **Observation Guide**

An observation guide in research entails the observation and description of a subject's behavior. Researchers utilizing the observational method can exert varying amounts of control over the environment in which the observation takes place (Maina, 2012). The observation method was

applied to each respondent involved in the sample to assess information sharing between police and judiciary. The observation assisted the researcher in looking at active information sharing behavior and responses from the target sample hence deriving required information valid for the study. This method was preferred by the researcher because it avoided obtaining wrong information since it is based on what a researcher has observed. In addition, it studies people's attitudes which are expressed verbally and thus provides first-hand information.

### **3.4 Data Analysis**

Data analysis is a process of inspecting, cleansing, transforming and modeling data with the goal of discovering useful information, informing conclusions and supporting decision-making (Rankin, 2013).

In this study, data analysis involved the use of a thematic analysis approach (Nehme, 2016). This method was used to analyze data from interviews with officers from criminal information agencies, and observations from the field. According to Nehme (2016), a thematic approach is used to analyze qualitative data where themes, categories and patterns are identified. Data collected through records were transcribed and the recurrent themes, which emerged in relation to each guiding question from the interviews, were presented in the results, with selected direct quotations from participants presented as illustrations. These themes thus guided the design of the information-sharing framework for the police and judiciary.

### **3.5 Framework Evaluation**

After the framework was fully developed, the researcher started a thorough evaluation process. Thereafter the developed framework was deployed to seek feedback from selected officers in

police and judiciary members. Evaluation of the framework was based on feedback from police and court officials to evaluate the performance and usefulness. An evaluation questionnaire was prepared with statements on requirements and principles of an information sharing framework in addition expert opinion. The researcher evaluated the potential of the framework to satisfy the stakeholder interests, requirements in information sharing and the effectiveness in helping the officers to make informed decisions while exchanging information. Furthermore, evaluation was done by documenting accomplishments, identifying differences between the ideal framework and the currently operating one. The response status was used to modify the design of the framework to satisfy the need to make informed decisions.

### **3.6 Ethical Considerations**

The researcher sought consent from participants to take part in the study. The confidentiality of the respondents was high, and the purpose of the study was explained to the targeted respondents both by a written introduction and verbally (Oso & Onen, 2011).

In conducting this study, care was taken to ensure strict observance of ethical standards during the study; every participant in the study was notified of the: aims; methods; and benefits of the study and their right to refuse to take part in the study or simply to terminate their participation at any time, (Kendall, 2008). Furthermore, there was no pressure or inducement to encourage an individual to participate in the study. The identities of participants were strictly confidential. In conclusion of, the study, it was also ensured that any information that may reveal the destroyed (Rankin, 2013).

The study also avoided the inclusion of information revealing the identity of any participant in the final report. In order to minimize the possibility of any harmful psychological consequences

on respondents by study, those items that are highly intensive, offensive and immoral were avoided (Oso & Onen, 2011). For instance, the administration of interviews was done in confidence. In addition, any other information that was obtained from other sources or authors to support this study's relevance was adequately acknowledged in the form of references.

## **CHAPTER FOUR**

### **PRESENTATION OF THE FINDINGS OF THE FIELD STUDY**

#### **4.1 Introduction**

Chapter three entailed the methodology used to answer the research questions of the study. It presented a description of the field study used to collect data in order to investigate the challenges of criminal information sharing between the Uganda police and the judiciary in order to determine requirements for a framework for criminal information sharing. This chapter now presents the findings of that field study.

#### **4.2 Response Rate**

The study considered a sample of 16 participants. A total of 16 (sixteen) professionals working in the criminal justice agencies; Police and Court judiciary agencies were considered and the researcher interviewed officers from both agencies. These included, court officials (06), Police officers (08) and DPP's office (02).

#### **4.3 Demographic Information of Participants**

The demographic data of participants was also established. This was useful guide to the researcher in understanding and associating the views of the participants to their perspective regarding information sharing among criminal agencies in Uganda. On matter of gender, majority participants (08) were male and six (06) were female. This implied that both gender participated, which made the study attain gender inclusive opinions. More so, it showed the

extent to which criminal agencies are gender sensitive in criminal information sharing. This consequently helped the study to avoid gender biased opinions.

#### **4.4 Challenges facing criminal information sharing among agencies**

A closer inspection of the core information sharing impediments among criminal agencies was conducted within the participant organizations (Police, DPP and Judiciary) to assess what, if any, differences or similarities were present across organizations. Accordingly, similarities and differences between the participating agencies regarding these challenges are discussed in this section.

##### **4.4.1 Processes and Technology**

Processes-technology was identified by many participants as the greatest single challenge to information sharing across the three agency offices, including the police, court and DPP. This represented internal and external information sharing processes, systems, policies, and information technologies infrastructure such as information portals, police records information management systems, court management systems within the agencies,

When specifying the aspect of process that created the challenge, several participants blamed organizational incentives for individual merit as opposed to teamwork: a promotional system which embraces singular deeds thereby leading to information hoarding and stealing”. Another police supervisor stated,

*“I see this primarily as an issue involving the art of communication. As long as we hire/employ human beings and not machines, we are at the mercy of those who wish*

*to hoard information and not share same. We can establish a myriad of systems to disseminate information/facts, unless the will is there to share it, to ensure it is broadcasted, we will continue to struggle with this” (Court official 1”)*

The comments clearly reflect the often-discussed but often neglected need to address the social aspect of information sharing and the formal and informal agency reward systems that exist within organizations creating incentives and disincentives to share information. Participants from police agencies suggested that technology policies and systems were the primary challenges:

*“First all we have information technology section witch overly restrictive policies and various systems do not talk to one another through portals. Moreover, some systems have been developed and are working in some courts and not in others. You have heard about Electronic court case management information system (ECCMIS) CAS (Court officer 2).*

#### **4.4.2 Individual Unwillingness**

The challenge pointed out as a significant barrier to information sharing was “individual unwillingness,” or a reluctance to share due to personal attitudes, values, beliefs, and/or actions. In both police and judiciary, participants perceived this as a problem substantially more than “process-technology.” Comments made by several officers captured the larger issue:

*“Individuals tend to keep criminal information to themselves to act upon themselves” (Police officer 1); . . . to beat out everyone else” (Police officer 2); and “Holding information gives me the ‘hero’ factor.*

These responses reflected rational self-interest, marked by an emphasis on personal goals versus collective priorities and interests, and influenced by their agency's unique social and organizational context. Such individual values and behaviors are not conducive to criminal information sharing.

Additionally, the issue of real or perceived competition between individuals was further illustrated by the comments by several officers:

*“. . . internal competition and information hoarding” (Court officer), “Officer hoarding of information and empire building” (Police officer), and “The individual silos of information and competition between units” (Police officer).*

#### **4.4.3 Organizational Unwillingness**

Another discovered challenge to criminal sharing information most frequently identified was “organizational unwillingness,” manifested by a unit, department, or agency level unwillingness to share information and knowledge with other units or departments, internally and/or externally. Results showed that this challenge was perceived as more common in the police (Judiciary and Police).

Competition within a unit and/or department for notoriety, resources, or public recognition was shown in several comments:

*“The individual silos of information and competition between units” (Police officer 2);*  
*“Boundaries between outside agencies . . . unwilling to share information because they are competitive and seeking glory within public perception” (Court officer 3); and*  
*“There is a sense that knowledge is power, and many do not want to relinquish power.*

*They are not special if others have the info. From the executive level, there is a sense of 'we can't share info with the membership, the minions would not understand' (Police officer).*

#### **4.4.4 Inadequate security of information systems**

Findings indicated that to a higher lever police relied heavily on personal interactions, relationships, and trust-based information transactions when dealing with sensitive or criminal information; that police trusted, overall, the security of the technology systems that are in place; that outside access to individual agency information databanks was very limited; and that a large portion of the sharing was built on “personal initiative or judgement” and not on purely “secure and systemic” information sharing protocols.

The foregoing comments from participants in the study indicate limited access to outside agency databanks and therefore information sharing was based on trust, and that systemic information sharing protocols are required.

#### **4.4.5 Workload-information overload**

The role that IT plays in the facilitation of the storage, retrieval, and dissemination of information and knowledge within the organization is an important one. However, the agencies are worried of the unintended consequences of that automation and re-arrangement of information flows is an overabundance of information and a need for the individual recipient to sort out what is important, what can wait, and what can be ignored. This overabundance of information, coupled with the need to sort and evaluate each new item of

information for relevancy, creates an increased workload and/or overload for end-users of this automation.

Another challenge identified by participants was “workload information overload.” Officers alike experienced this pressure:

*“Work load is associated with time constraints, I don’t have time in the day in order to properly disseminate all the information” (Court officer 1); “. . . sharing information often results in more work” (Police officer 4); . . . information overload through too many mediums” (Court officer 3)*

From the comments, it’s clear that unless sufficient time and/or resources are dedicated to mitigating information and work overload, much information will be lost, overlooked, and/or ignored to the detriment of the organization and the achievement of target goals and outcomes. More importantly, the increased workload caused by the massive influx of information defeats the information sharing goal by creating disincentives for officers to use and contribute to the information systems and information flow. Because of this potential for backlash, it is important that agencies develop appropriate structures that facilitate and do not hinder the flow of communication between individuals, groups, units, and/or organizations.

#### **4.4.6 Location-structure**

Another challenge mentioned by a substantial proportion of participants was “location structure,” which related to the way the agencies are internally structured or generally

located in the applicable area or region. The following comments illustrated this information sharing challenge succinctly:

*“The compartmentalization nature of policing” (Police officer 6); “Too large a service and too spread out throughout the city to spread the information throughout. Too many specialty units that are too specialized and retain their information because they are segregated from the rest of the service” (police officer 3); and “. . . too many different police agencies in a very small geographic area” (police officer 1 ).*

Each of the foregoing comments identified the presence of information “silos,” which may be vertical within or horizontal between units, sections, or agencies. This lack of communication and information sharing within and across organizations is aggravated by the location and structure of agency units, different roles and responsibilities, accountabilities, budgets, and boundaries.

Traditional bureaucratically focused hierarchies do not always lend themselves to substantive information sharing due to policies and boundaries, however, there has been a greater recognition of the need for and value of increased informal contact with peers and colleagues and the development of collaborative network structures in the transferring of knowledge within and across agencies (Agranoff & McGuire, 2004). A key role of leaders and managers in creating opportunities for knowledge sharing and integration within and across organizations is to eliminate or reduce barriers that produce physical or psychological distance (Argote, McEvily, & Reagans, 2003).

Two additional impediments to information and knowledge sharing that emerged in the responses from participants were “leadership” (lack thereof) and “risk management.”

#### **4.4.7 Leadership**

Leadership within organizations, positively or negatively, drives the values, behaviors, commitment, and cooperation of employees toward the achievement of a common goal. Participants perceived that a lack of direction, feedback, or support by the senior management or executive management team was problematic. Illustrative of the perception was that the lack of leadership and management support were challenges included the following:

“Management failure to take appropriate action unless the issue is topical, sexy or in their individual political interest” (Court official 2);

*“... Lack of organization and direction, Confusion based on who does what and what goes where due to a system top heavy in bureaucracy” (Court official 3);  
and “lack of recognition” (Court official 3).*

In each of these instances, the challenges to information and knowledge sharing can be significantly addressed through the leadership function, whether at the supervisory or at the senior management level.

#### **4.4.8 Risk management**

The final impediment identified was risk management. Results of the study suggested that information sharing was hindered by the overarching need for agencies to investigative level information and information risk management. Two issues of significance to policing were

encompassed by this theme: maintaining investigative integrity and limiting agency liability in relation to lawsuits. Although there were comparatively few responses within this category, the responses reflected these concerns:

*“loose lips sink ships, if you have an important investigation, only want the investigating officers to know in order to complete invest without hiccups” (Court officer 4); “may jeopardize a case” (Police officer); and “. . . fear that the information may get in the wrong hands” (Court officer).*

Police must, for legal and operational reasons, protect sensitive investigative information and data from being inappropriately collected, accessed, disclosed, copied, or destroyed. It is within this legal and operational framework that police must carefully consider, develop, and/or comply with data sharing protocols to effectively work within the community policing, intelligence-led, problem-oriented.

#### **4.4.9 Trust issue and lack of protocols-procedures**

Another significant challenge identified barriers were a lack of trust between agency officers as well as a lack of compatibility of protocols-procedures between criminal justice agencies. Respondents listed “egos” or “issues of delegating credit for successful investigations” as the next most prevalent barrier. Another challenge in relation to this listed was a lack of cooperation and unresponsiveness of agencies. Additionally, the failure of time-sensitive information to be shared in a manner that enabled officers to immediately investigate and follow-up on the information shared, including classified issues of which individuals were entitled to receive the information. One of the participants attested that;

*“I really think that one of the key issues is some individuals in the justice system do not have trust in our systems and there is fear to share information, of course we are also limited by lack of cooperation and coordination and we don’t have enough resources for sharing”*(Police Officer 1)

#### **4.4.10 Cost issues**

The problem of interoperability, that is, the lack of one database which can be accessed and shared over all levels of criminal justice agencies was an additional barrier to effective information sharing. Bureaucracy or too much red tape was the next barrier listed by respondents. Finally, competition for funds, failure to embrace organizational change, and more important and better things to do were listed as challenges by at least one respondent of the study.

*“Lack of technology attributed to some costs of purchase, development of systems, training impede information sharing among agencies, sometimes I feel like the officers are not ready for change”* (Court Officer 3)

**Table 4. 1: Defining challenges of information sharing among criminal justice systems**

<b>Challenge</b>	<b>Definition</b>
<b>Processes and technology</b>	Internal and external information sharing processes, systems, policies, and/or technologies (e.g., police records information management environment, email, etc.)
<b>Governance</b>	Lack of direction, feedback, or support by the senior management or executive management team about information and knowledge sharing
<b>Individual unwillingness</b>	Individual unwillingness to share information/ knowledge due to personal attitudes, values, beliefs or actions.
<b>Organizational unwillingness</b>	Unit, department, or agency level unwillingness to share information with other units or departments internally and/or externally.
<b>Physical location/structure</b>	The way the organization or policing generally is structured or located in the area or region.
<b>Risk management</b>	Investigative or organizational risk management

<b>Workload/overload</b>	Shortage of time, work overload, or general inability to deal with the information/work load.
<b>Trust issue and lack of protocols-procedures</b>	A lack of trust between agency officers as well as a lack of compatibility of protocols-procedures between criminal justice agencies, a lack of cooperation and unresponsiveness of agencies
<b>Cost issues</b>	Lack of one database which can be accessed and shared over all levels of criminal justice agencies, Bureaucracy and competition for funds, failure to embrace organizational change

#### **4.5 Requirements for framework of effective information sharing among criminal justice Agencies**

Basically, requirements are elements are considered to be the main components of information sharing systems which have been generated from the field in order to analyze and understand the information sharing, as well as to help determine the proper features and system/technology to use in regard to sharing the information effectively.

##### **4.5.1 Technology**

Findings revealed that technology or technological capacity is a key barrier to information sharing. The researcher Technological linkages are particularly critical to transfer information flows among the criminal justice agencies, and a poor technology significantly affects the

information transmission process even interrupts the movement of information among stakeholders in the justice system. It was also revealed that the support of technology may be ineffective without each firm's willingness to share information. One of the interviewed participants attested that;

*“I think technology is one thing but also the willingness of individuals is fundamental in this case. Individuals must be having to an openness attitude of individuals to exchange the necessary information to agencies honestly, enthusiastically, and reliably”.* (Court Officer 4)

On the same aspect, technology enablers were the elements most commonly thought of as supporting information-sharing. The researcher observed that there needed to be technology enablers including;

- Standards for sharing information, along with the architectures for employing the standards and testing mechanisms for checking compliance.
- State, and regional exchanges and repositories for sharing various types of information across agency boundaries
- Information-assurance technology intended to ensure continued access to, and integrity and protection of, sensitive criminal information in the face of, natural disasters, and routine maintenance problems.
- Infrastructure for physically storing and transporting information, including networks in the field and in the backend data center. Infrastructure can also include common software tools for accessing and using criminal justice information.

In support of the above findings, one participant mentioned that;

*“....., information is everywhere, and successful data sharing means that computer systems must be able to “talk” to each other while protecting and securing private health information. Unfortunately, the reality is that data is often held in silos (collection of data stored by one group that other groups cannot easily access even in the same organization (Court officer 3).*

#### **4.5.2 Governance**

Findings also established governance requirements set the strategy and direction for using technologies in ways that meet the acceptance of the public. Major elements include:

- Agency objectives and requirements for IT systems, identifying what the systems are supposed to do to support law enforcement operations successfully.
- Governance organizations for designing and enforcing policies and procedures.

#### **4.5.3 Usability**

Results of the field indicate that most of the participants believed that one of the requirements for effective information sharing is usability. One of the participants said:

*“In my opinion, you covered the basic requirements of the information sharing process; in addition to that, the requirements of the information sharing system are useful to share the information in effective way. Because the requirements of an information sharing system are usability and suitability for the user’s needs” (Court officer 2)*

Effective information sharing among criminal justice agencies is essential for combating crime and protecting public safety. However, there are a number of challenges that can impede information sharing, including technological barriers, governance issues, and usability challenges. Technology is a key enabler of information sharing, but it is also a major barrier. Criminal justice agencies often have different and incompatible technology systems, which can make it difficult to share information. Additionally, some agencies may lack the resources to invest in the necessary technology infrastructure. Effective information sharing also requires clear and well-defined governance structures. These structures should define who has access to what information, how information should be shared, and how information security should be maintained. Additionally, governance structures should be designed to ensure that information sharing is consistent with the law and protects the privacy of individuals. Information sharing systems should be easy to use and navigate. If systems are complex or difficult to use, users are less likely to adopt them. This can lead to silos of information and make it difficult for agencies to share information effectively.

To address the challenges of information sharing, criminal justice agencies should:

- **Invest in technology:** Agencies need to invest in the necessary technology infrastructure to support information sharing. This includes developing and implementing standards for data sharing, as well as building state and regional information exchanges and repositories.
- **Develop clear governance structures:** Agencies need to develop clear and well-defined governance structures for information sharing. These structures

should define who has access to what information, how information should be shared, and how information security should be maintained.

- **Design user-friendly systems:** Information sharing systems should be easy to use and navigate. Agencies should consider the needs of users when designing and implementing these systems.

## **4.6 Discuss the findings**

### **4.6.1 Challenges facing criminal information sharing among agencies**

Findings revealed that there were challenges to information sharing among criminal agencies. Findings revealed that processes-technology which represents internal and external information sharing processes, systems, policies, and information technologies infrastructure (Information portals, police records information management systems, court management systems) within the agencies, was the greatest single challenge to information sharing across the offices of agencies including police, court and DPP. More so, findings revealed that several participants blamed organizational incentives for individual merit as opposed to teamwork: a promotional system which embraces singular deeds thereby leading to information hoarding and stealing.

Findings revealed that individual unwillingness is a significant barrier to information sharing was individual unwillingness, or a reluctance to share due to personal attitudes, values, beliefs, and/or actions. In both police and judiciary, participants perceived this as a problem substantially more than “process-technology. Findings also revealed that organizational unwillingness was a challenge to criminal justice agencies. This challenge was manifested by a unit, department, or agency level unwillingness to share information and knowledge with other units or departments,

internally and/or externally. The researcher established that, this challenge organizational unwillingness was more common in the police.

Additionally, the study findings showed that police relied heavily on personal interactions, relationships, and trust-based information transactions when dealing with sensitive or criminal information. Overall, the security of the technology systems that were in was very limited; and that a large portion of the sharing was built on “personal initiative or judgment” and not on purely “secure and systemic” information sharing protocols. The foregoing comments from participants in the study indicate limited access to outside agency databanks and therefore information sharing was based on trust, and that systemic information sharing protocols are required. Findings were also in line with Solove (2021) who earlier documented that there are risks of the loss of control of data by agencies, legal complexity due to sharing among the agencies, incomplete records and the concern of greater transparency that affect information sharing decisions.

Regarding location and structures, findings also revealed that the way the agencies are internally structured or generally located in the applicable area was a challenge to information sharing. The researcher established the presence of information “silos,” which may be vertical within or horizontal between units, sections, or agencies. This lack of communication and information sharing within and across organizations is aggravated by the location and structure of agency units, different roles and responsibilities, accountabilities, budgets, and boundaries.

One other challenge identified by the findings of the study was leadership within organizations, positively or negatively, drives the values, behaviors, commitment, and cooperation of employees toward the achievement of a common goal. A lack of direction, feedback, or support

by the senior management or executive management team was problematic. Findings of the study also revealed that information sharing was hindered by the overarching need for agencies to investigative level information and information risk management. Two issues of significance to policing were encompassed by this theme: maintaining investigative integrity and limiting agency liability in relation to lawsuits. Findings were also in line with Solove (2021) who earlier documented that there are risks of the loss of control of data by agencies, legal complexity due to sharing among the agencies, incomplete records and the concern of greater transparency that affect information sharing decisions.

Lack of trust between agency officers and a lack of compatibility of protocols-procedures between criminal justice agencies were identified as challenges to information sharing. Additionally, the failure of time-sensitive information to be shared in a manner that enabled officers to immediately investigate and follow-up on the information shared, including classified issues of which individuals were entitled to receive the information. These findings were in agreement with Vernadat (2017) who postulated that there have been fears of the risks that would occur as a result of centralizing information, especially in the light of accusations of government data mining and unequally distributed access to databases

Lastly, lack of one database which can be accessed and shared over all levels of criminal justice agencies was an additional barrier to effective information sharing. Competition for funds, failure to embrace organizational change, and more important and better things to do were listed as challenges to information sharing. These findings are in line with Zheng *et al.* (2018) who stated that there exists a financial risk that can occur due to inadequate funding and from factors

such as delayed timelines of completion and anticipated program savings, which are quite significant in projects that entail government funding for information technology

#### **4.6.2 Requirements for framework of effective information sharing**

The second objective of the study established requirements for information sharing framework among criminal agencies. Requirements were considered to be the main components of information sharing systems for analyzing and understanding the information sharing, as well as determining the proper features and system/technology to use in regard to sharing the information effectively.

Findings also established governance requirements set the strategy and direction for using technologies in ways that meet the acceptance of the public. Major elements included agency objectives and requirements for IT systems, identifying what the systems are supposed to do to support law enforcement operations successfully. Findings were in agreement with Kaats and Opheij (2014) who documented that creating and maintaining collaboration requires leaders to play a critical role.

Additionally, Governance organizations for designing and enforcing policies and procedures were found critical to an efficient criminal information sharing framework. These findings are in line with Thomson and Perry, (2009) who postulated that administration is an important dimension in effective collaboration because collaborations do not administer themselves. Some aspects to consider for effective collaboration in relation to administration include planning, clarification of roles, responsibilities, procedures and agreement on administrative responsibilities.

Findings also showed that one of the requirements for effective information sharing is usability. The findings supported the views of McCallister (2010) who postulated that Trust is an important element in inter-organizational collaboration as it can reduce costly governance mechanisms, act as a substitute for contracts and cause effectiveness in collaboration. It may be thought out that creating trust in a collaboration should be very simple, however, this is likely not the reality in practice.

Findings revealed that technological linkages are particularly critical to transfer information flows among the criminal justice agencies, and a poor technology significantly affects the information transmission process even interrupts the movement of information among stakeholders in the justice system. This was so because technology or technological capacity is a key barrier to information sharing. It was also revealed that the support of technology may be ineffective without each firm's willingness to share information. Furthermore, technology enablers were the elements most commonly thought of as supporting information-sharing among criminal agencies. The researcher observed that there needed to be technology enablers including; Standards for sharing information, along with the architectures for employing the standards and testing mechanisms for checking compliance as well as state, and regional exchanges and repositories for sharing various types of information across agency boundaries

It was also established that Information-assurance technology intended to ensure continued access to, and integrity and protection of, sensitive criminal information in the face of, natural disasters, and routine maintenance problems. Similarly Infrastructure for physically storing and transporting information, including networks in the field and in the backend data center as well

as common software tools for accessing and using criminal justice information were identified as requirements for an efficient criminal information sharing framework.

It was established that in each of these instances, the challenges to information and knowledge sharing can be significantly addressed through the leadership function, whether at the supervisory or at the senior management level. Police must, for legal and operational reasons, protect sensitive investigative information and data from being inappropriately collected, accessed, disclosed, copied, or destroyed. It is within this legal and operational framework that police must carefully consider, develop, and/or comply with data sharing protocols to effectively work within the community policing, intelligence-led, and problem-oriented.

## **CHAPTER FIVE**

### **A FRAMEWORK FOR EFFECTIVE CRIMINAL INFORMATION AMONG CRIMINAL JUSTICE AGENCIES**

#### **5.1 Introduction**

Chapter four presented the results from the analysis of the field study. This chapter now presents a description of a framework for Effective Criminal Information among Criminal Justice Agencies based on the challenges, factors/principles and requirements identified in chapter four. The principles and requirements are used to extend the Portsmouth information sharing framework. The chapter presents the framework description starting with the contribution of theory to the framework, contribution of field study to the framework and an outline of the extended Framework. The output of this chapter addresses two of the research questions and meets corresponding specific objectives of: To develop a Framework for effective criminal information sharing in Police and Judiciary and to evaluate frame work.

#### **5.2 Framework Description**

This section presents a description of a framework for effective criminal information sharing among criminal justice agencies. Challenges affecting criminal information sharing obtained from analysis of field study findings were used to identify the requirements for the framework; these were further used to extend the Portsmouth information sharing framework. The items that were used to operationalize the study constructs included were mostly adopted from relevant prior research, with necessary validation and wording changes tailored to criminal justice systems and the targeted professional context.

The is an overarching framework which outlines the principles, standards of conduct and legal and justifiable basis for using and sharing information by partner agencies working.

It was envisaged that agencies need to share information so they can work effectively together to achieve better outcomes for citizens. Sharing information between agencies helps us to: - make decisions about plans to improve the country - understand trends and patterns of activity to allocate resources more effectively, respond to emergencies and appropriately - intervene at the right time and support the lives and safety of individuals, families and communities, prevent and detect crime, apprehend and prosecute offenders, protect life and property, preserve order and fulfill our statutory duties and responsibilities.

Therefore the judiciary and police acknowledge their moral and statutory responsibility to share criminal information carefully and responsibly and which calls developed the Framework to provide a common set of standards and conduct, to enable information to be shared fairly and lawfully and to promote their transparency and accountability.

### **5.2.1 Contribution of theory to the Framework**

The developed framework is an extension of the Portsmouth information sharing framework. The Portsmouth Information Sharing Framework ('the Framework') sets requirements which need to be addressed when sharing information so that agencies can effectively work together (Abboud, 2021). Specifically, this Framework aims to support appropriate and necessary data sharing between organizations within Portsmouth and includes: the common purposes for holding and sharing information, the general principles of information sharing, the legal

framework for sharing information, sharing information without consent and security of information.

As already discussed in chapter 4, agencies have considerable challenges to overcome in working together to achieve quality and timely service for Ugandan citizens, including: - challenges arising from new and emerging Frameworks of public service delivery, such as integrated and multi-disciplinary services , increased concerns about data security in more digitally enabled organizations and the need to address cyber security , increased public awareness of privacy issues, changes in the law concerning the protection of personal data with increased privacy rights for individuals - the complex legal framework and widespread myths and uncertainty about the rules governing information sharing, meeting respective statutory responsibilities and obtaining a balance between the need to share criminal information to provide quality services and the protection of confidentiality.

The Portsmouth information sharing framework highlights legal and justifiable basis for using and sharing information by partner organizations. The framework considers the principle of people-centeredness and inclusiveness including the stakeholder interests, wellbeing and rights. The do no harm principle is highlighted by the principle and risk assessment as well as risk mitigation are emphasized by the framework. The framework considers communication of purpose, identified risk and costs vis-à-vis the expected response, sharing and coordination of protection data and information, personal information collected only after informed consent, individual awareness of the purpose of the information collection, adherence to international law and standards of information protection and security, a right to have information protected,

accountability, protection staff equipped with information, transparency and accountability as well as minimal bias.

However, the Portsmouth framework doesn't highlight coordination, collaboration in terms of maintenance, reduced duplication of information activities and scalability. It also ignores infrastructure support such as availability of technology, Architectural support among others. The study will build on the Portsmouth Information Sharing Framework and fill the gaps identified above.

The extended framework aims to ensure that information is shared in a legal and justifiable way that safeguards the individuals working with criminal agencies. Agencies must recognize that the duty to share information is as important as the duty to protect confidentiality and use the framework to actively promote the sharing of criminal information. The framework will consider technology (information systems) as a fundamental aspect for information sharing.

### **5.2.2 Contribution of Field Study to the Framework**

The principles used to describe the framework for effective criminal information sharing among criminal justice agencies are derived from the challenges obtained from the field study as presented in chapter four. The field study results revealed that principles of people-centeredness and inclusiveness including the stakeholder interests, wellbeing and rights as well as do no harm principle are key to criminal information sharing. Therefore, communication of purpose, identified risk and costs vis-à-vis the expected response, sharing and coordination of protection data and information, personal information collected with informed consent, individual awareness of the purpose of the information collection, adherence to international law and

standards of information protection and security, a right to have information protected, accountability, protection staff equipped with information, transparency and accountability as well as minimal bias are key attributes in the development of a framework. This means that increase in any of these variables leads to increased agency performance in terms of quality information, system quality and service quality.

Additionally, the findings of the study necessitated an extension of the Portsmouth information sharing framework. The extension of the framework comprises elements including Technical elements to ensure hardware and software compatibility, availability of standardized processes and the integration of best practices into such processes; Interoperability Policy Architecture—architectural elements such as the infrastructure to facilitate access to information, inter-agency contracts to ensure the fulfillment of information requirements among agencies of the same (horizontal) or different (vertical) levels and others.

### **5.3 Principles underpinning the Framework**

The Framework stipulates that criminal information is shared where there is a legal basis to do so and in accordance with prevailing legislation. The relevant bases and purposes for sharing are therefore identified within the specific information sharing agreements.

According to the framework, criminal justice agencies abide by the following principles: to work together to promote information sharing and to overcome barriers to sharing information, to be transparent in the way they share information, to share information with each other where it is lawful, to use anonymised or pseudonymised data where this is adequate and appropriate, to adopt a 'privacy by design' approach and ensure that data protection is a key consideration in the

early stages of any project or programme and to ensure the security of personal data by applying adequate technical and non-technical security measures to the personal data they hold and transfer.

**Principle 1:** Agencies will work together to promote information sharing and to overcome barriers to sharing information. Agencies recognize the benefits of sharing information and the adverse impacts of not sharing information for individuals and for their organizations and agree to work together to address the cultural, technical and organizational barriers to sharing information.

**Principle 2:** Agencies will be transparent in the way they share information. Agencies will work together to meet their respective requirements to be more transparent in the way they handle and share information. Fair processing or 'privacy 'notices should be in place at the point of collection and will explain the purposes of collecting information, who will see it and who it is shared with, as well as the individual's rights of access.

**Principle 3:** Agencies will share information where it is lawful. Agencies involved in providing services to the public have a responsibility to ensure that their use of personal information is lawful, properly controlled and that the individual's rights are respected. Information sharing agreements will specify the legal basis on which any personal data may be shared with partner organizations and detail any particular legal obligations requiring personal information to be shared.

**Principle 4:** Agencies will use data in a form where identification is not likely to take place unless it is necessary to identify individuals. It can be beneficial to join agencies' information, to

inform the way services are planned and commissioned by partner organizations, for example, to develop more integrated services and to make best use of agencies' resources. There is a general expectation, that anonymised data will be used for planning purposes and for carrying out research.

**Principle 5:** Agencies will adopt a 'privacy by design' approach by ensuring that privacy and data protection is a key consideration in the early stages of any project or programme, and throughout its lifecycle. For example when: building new IT systems for storing or accessing personal data; - developing legislation, policy or strategies that have privacy implications; embarking on a data sharing initiative; or- using information for new purposes. Agencies recognize their statutory responsibility to carry out a Data Protection Impact

**Principle 6:** Agencies will ensure the security of personal data. Agencies shall have appropriate technical and organizational measures in place to protect the confidentiality, integrity and availability of the data during all stages of processing. It is envisaged that each party will adhere to common standards for data security. Each agency has to have formal procedures to: ensure the security of personal data before, during and after data sharing takes place; deal with breaches or suspected breaches of legislation or other duty, stated or implied, relating to the confidentiality of personal data, including measures for co-operation between the parties to the Framework:

#### **5.4 Framework Dimensions**

The four dimensions of the framework for information sharing among criminal justice agencies are:

**Legal Compliance:** This dimension ensures that information sharing is conducted in accordance with all relevant laws and regulations. It includes elements such as legal frameworks and regulations for data sharing, and compliance with data privacy laws and standards.

**Information Security:** This dimension protects the confidentiality, integrity, and availability of information shared between criminal justice agencies. It includes elements such as data encryption and protection measures, and access controls and user authentication procedures.

**Interagency Collaboration:** This dimension fosters cooperation and coordination between criminal justice agencies in the sharing of information. It includes elements such as governance structures and policies for cooperation, and protocols for sharing data across agencies.

**Technological Infrastructure:** This dimension provides the hardware and software systems necessary for information sharing between criminal justice agencies. It includes elements such as hardware and software systems for information sharing, and network architecture and data storage solutions.

**Table 5. 1: Framework Dimensions**

Dimensions	Attributes
<b>Legal Compliance</b>	Legal frameworks and regulations for data sharing
	Compliance with data privacy laws and standards
	Data encryption and protection measures
<b>Information Security</b>	Access controls and user authentication procedures
<b>Interagency Collaboration</b>	Governance structures and policies for cooperation
<b>Collaboration</b>	Protocols for sharing data across agencies
<b>Technological Infrastructure</b>	Hardware and software systems for information sharing
	Network architecture and data storage solutions

## 5.5 Framework Maturity Stages

The maturity stages of the framework for information sharing among criminal justice agencies are:

- ✓ **Sharing experience:** At this stage, agencies are sharing information on an ad hoc basis, with no formal policies or procedures in place.
- ✓ **Infrastructure support:** At this stage, agencies have developed basic infrastructure for information sharing, such as common data formats and communication protocols.
- ✓ **Information strategy:** At this stage, agencies have developed a comprehensive information sharing strategy, which includes policies and procedures for sharing information, as well as governance structures and technical standards.

**Table 5. 2: Framework Maturity Stages**

Concepts	MATURITY STAGES			
		Sharing experience	Infrastructure support	Information Strategy
DIMENSIONS	Legal Compliance	Legal frameworks and regulations for data sharing, Compliance with data privacy laws and standards, Data-sharing agreements	Laws regulations	Data-sharing policies, Privacy considerations
	Information Security	Benefits Risks	Data encryption and protection measures, Access controls and user authentication procedures, Data security standards	Data protection strategies, Security protocols

	<b>Interagency Collaboration</b>	Governance structures and policies for cooperation, Protocols for sharing data across agencies	Partnership trust	Collaboration strategies, Coordination mechanisms
	<b>Technological Infrastructure</b>	Hardware and software systems for information sharing, Network architecture and data storage solutions	Availability of technology, Architectural support	Technology integration, Data storage strategies

## 5.6 Framework Outline

The framework is organized into stages and dimensions, which are based on the principles of information sharing. The different artifacts used in information sharing are presented in stages, as shown in the figures below.

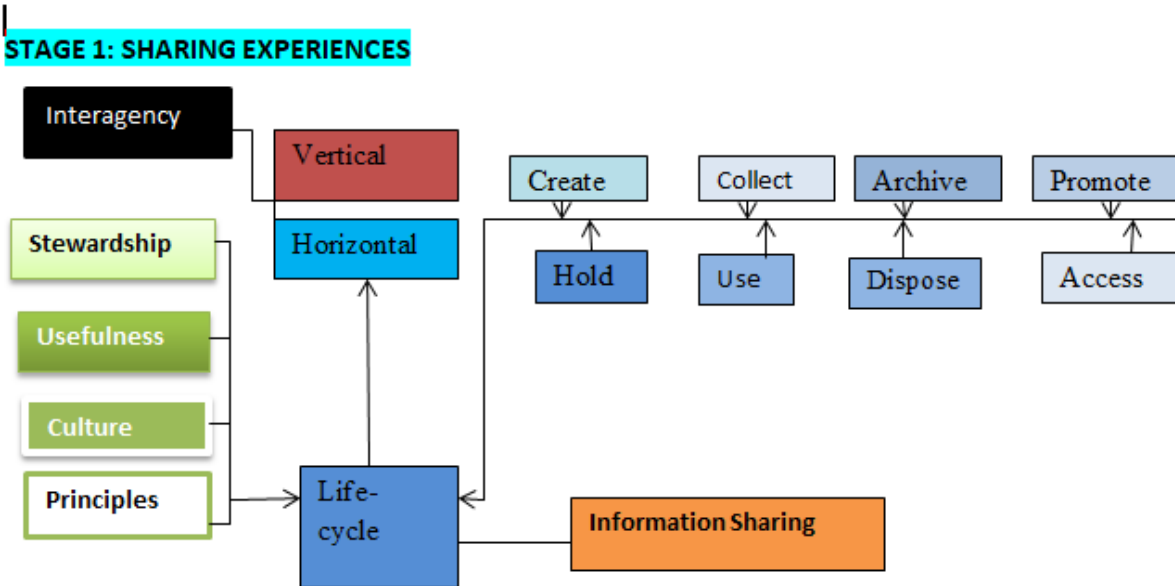
### Stage one: Sharing experience

At this stage, agencies are sharing information on an ad hoc basis, with no formal policies or procedures in place. This means that information sharing is often haphazard and inconsistent. Agencies may share information with each other based on personal relationships or informal agreements, but there is no overarching framework to guide this process.

This stage is characterized by the following:

- Information sharing is limited and opportunistic.
- There is no formal process for requesting or sharing information.

- Agencies may be hesitant to share information due to concerns about confidentiality, privacy, and liability.
- There is a lack of coordination and standardization between agencies.



**Figure 5. 1: Sharing Experience**

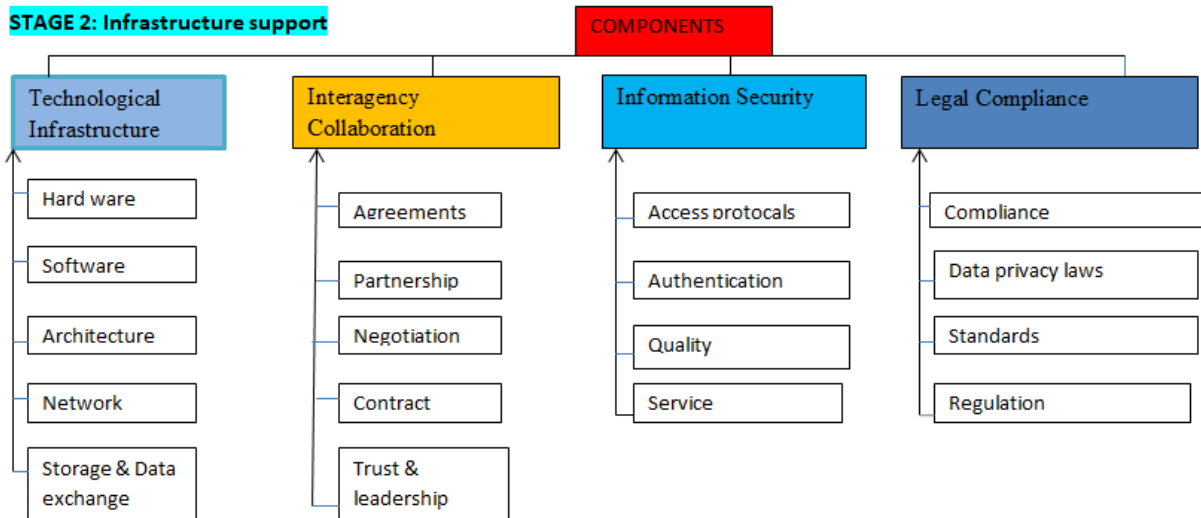
**Stage Two: Infrastructure Support**

At this stage, agencies have developed basic infrastructure for information sharing, such as common data formats and communication protocols. This means that agencies have the technical capability to share information with each other, but they may not yet have a comprehensive information sharing strategy in place.

This stage is characterized by the following:

- Agencies have implemented basic technologies to support information sharing, such as shared networks, secure email systems, and data exchange platforms.

- Agencies have developed common data formats and communication protocols to facilitate information sharing.
- Agencies have begun to develop policies and procedures for information sharing, but these may not yet be fully mature.
- There is some coordination and collaboration between agencies in terms of information sharing, but this may be limited to specific projects or initiatives.



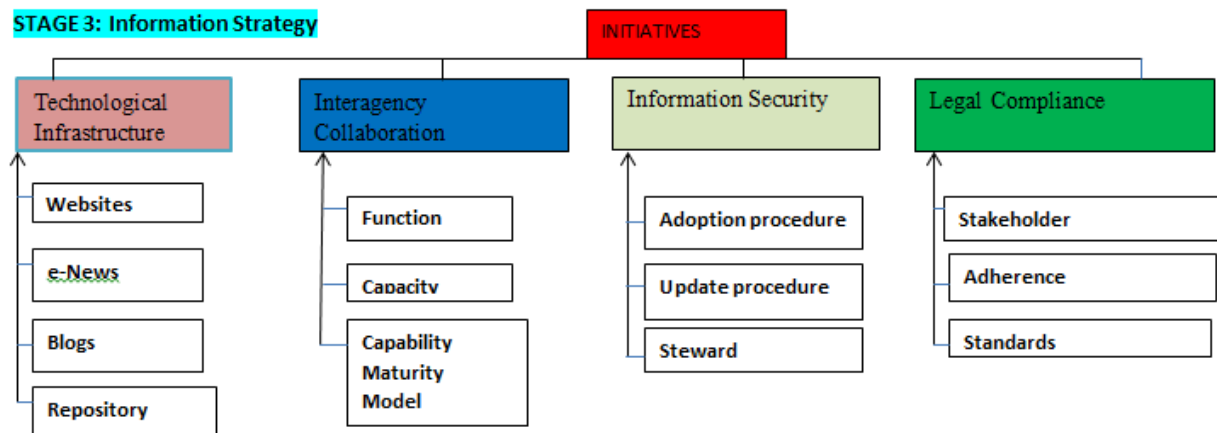
**Figure 5. 2: Infrastructure Support**

### **Stage Three: Information Strategy**

At this stage, agencies have developed a comprehensive information sharing strategy, which includes policies and procedures for sharing information, as well as governance structures and technical standards. This means that agencies have a clear and well-defined approach to information sharing, and they have the necessary policies, procedures, and technologies in place to support this approach.

This stage is characterized by the following:

- Agencies have a comprehensive information sharing strategy that is aligned with their business goals and objectives.
- Agencies have developed clear policies and procedures for requesting, sharing, and managing information.
- Agencies have established governance structures to oversee and manage information sharing.
- Agencies have implemented technical standards to ensure the security and integrity of information sharing.
- Agencies are actively collaborating and sharing information with each other on a regular basis



**Figure 5. 3: Information Strategy**

## **Framework Additional Dimensions**

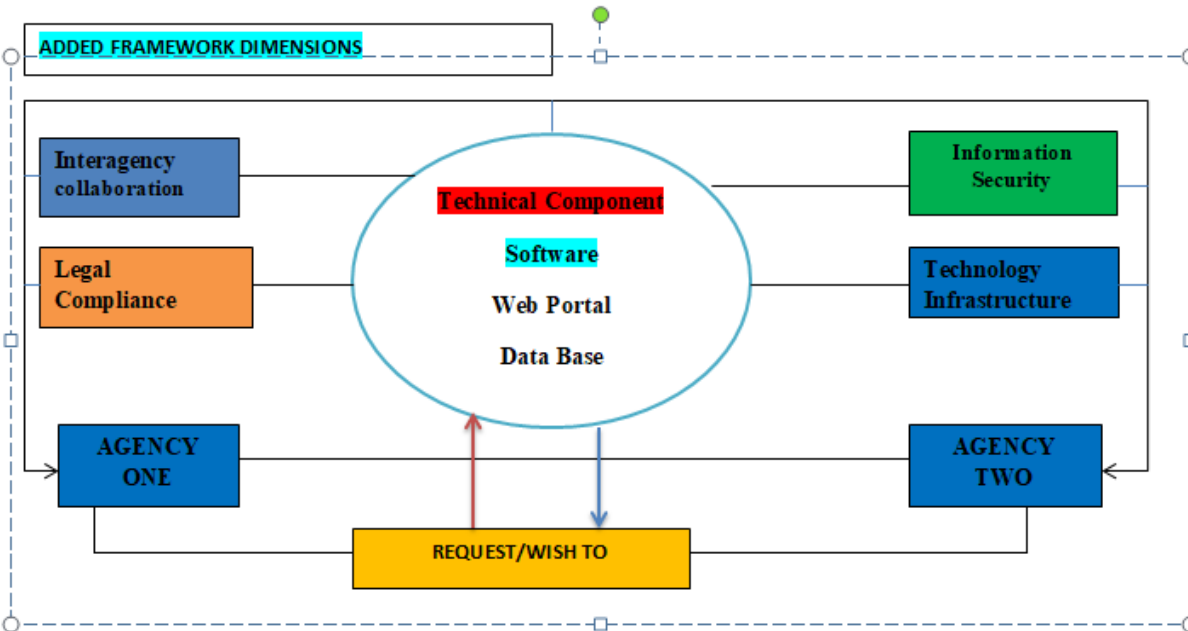
Based on the on the above artefacts; each dimension of the framework has its own maturity stages:

*Legal compliance:* At the lowest level of maturity, agencies may not have any legal frameworks or regulations in place for data sharing. At the highest level of maturity, agencies have comprehensive legal frameworks and regulations in place that are aligned with the latest laws and regulations.

*Information security:* At the lowest level of maturity, agencies may have few or no security measures in place to protect information shared between agencies. At the highest level of maturity, agencies have implemented robust security measures, such as data encryption and access controls, to protect information shared between agencies.

*Interagency collaboration:* At the lowest level of maturity, agencies may share information on an ad hoc basis, with no formal agreements in place. At the highest level of maturity, agencies have developed formal data-sharing agreements and have established clear governance structures and protocols for sharing information.

*Technological infrastructure:* At the lowest level of maturity, agencies may have limited or no technological infrastructure in place for information sharing. At the highest level of maturity, agencies have invested in the necessary hardware, software, and network infrastructure to support information sharing.



**Figure 5. 4: Contributed Dimensions and Attributes**

### Concepts and Benefits

The following concepts and benefits are associated with each dimension of the framework:

**Legal compliance:** Laws and regulations, data-sharing agreements, and data-sharing policies help to ensure that information sharing is conducted in a lawful and ethical manner.

**Information security:** Data encryption and protection measures, access controls and user authentication procedures, data security standards, and data protection strategies help to protect the confidentiality, integrity, and availability of information shared between agencies.

**Interagency collaboration:** Partnership trust, collaboration strategies, and coordination mechanisms help to foster cooperation and coordination between agencies in the sharing of information.

***Technological infrastructure:*** Availability of technology, architectural support, technology integration, and data storage strategies help to ensure that agencies have the necessary hardware, software, and network infrastructure to support information sharing.

## **Recommendations**

The following recommendations are made based on the framework maturity stages:

- Criminal justice agencies should assess their current maturity level for each dimension of the framework.
- Agencies should develop a plan to improve their maturity level for each dimension of the framework.
- Agencies should share best practices and learn from each other's experiences.
- Agencies should work together to develop common policies, procedures, and standards for information sharing.

## Framework Outline

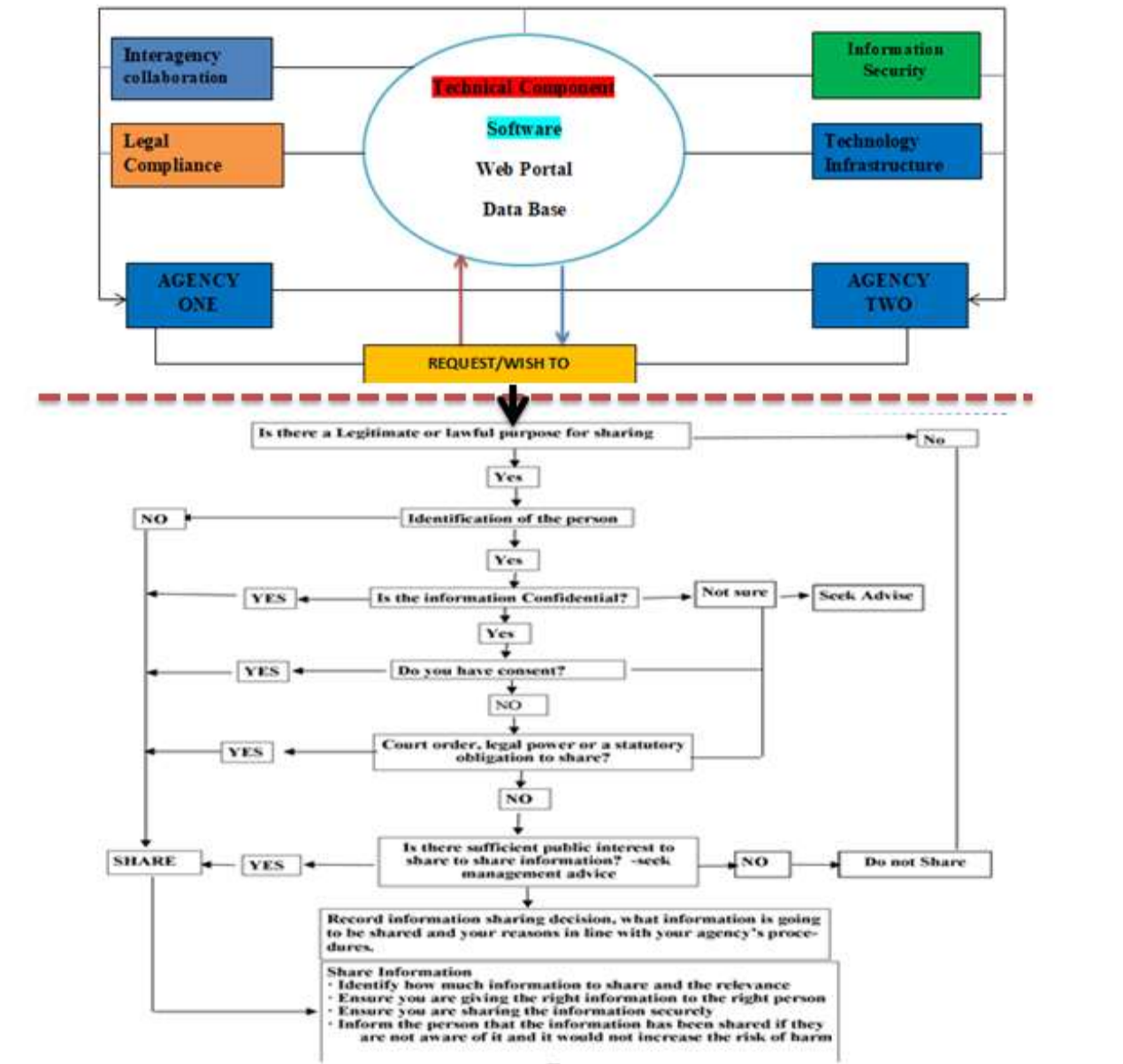


Figure 5. 5: Framework for effective criminal information sharing among criminal justice agencies

## **5.7 Framework Evaluation**

The framework was described to the participants as being largely designed, focused on achieving logical and coherent management of information sharing between various organizations. The participants were advised of the importance of their feedback and opinions towards the evaluation of the framework, including finding out if it could successfully be administered within real working environments. In the police and judiciary, the participants directly interacted in information sharing, developing, and maintaining the mechanism of information sharing in policing, and the data collected proved valuable.

### **5.7.1 Respondents characteristics**

The evaluation of the information sharing framework involved three distinct categories of participants, each playing a significant role in assessing the framework for information sharing among criminal justice agencies in Uganda. Police officers are at the forefront of the criminal justice system, responsible for investigating crimes and apprehending suspects. They have a unique understanding of the operational challenges and opportunities associated with information sharing. Legal professionals, such as lawyers and prosecutors, are responsible for ensuring that the criminal justice system operates fairly and justly. They have a deep understanding of the legal standards and regulations that govern information sharing. Judicial and court officers, such as magistrates and judges, are responsible for adjudicating criminal cases. They have a unique understanding of the administrative and procedural requirements of the criminal justice system.

**Police officers (N=16)**

The largest group, comprising police officers, represented various operational roles, including investigators, field officers, seniors, and supervisors, with experience ranging from 5 to 22 years. These officers contributed practical insights and frontline perspectives, offering critical feedback on the operational feasibility of the framework within law enforcement settings. Police investigators shared their experiences with coordinating information sharing with other criminal justice agencies, including the challenges they face and the potential benefits of a more effective framework. Field officers provided feedback on how the framework could be designed to be more user-friendly and efficient for officers in the field. Senior officers and supervisors shared their thoughts on the leadership and management implications of the framework, as well as the resources and training that would be needed to support its implementation.

**Legal professionals (Lawyers , N=8)**

The second group consisted of legal professionals specifically lawyers, with experience levels spanning from 5 to 12 years. These legal experts provided essential input to ensure legal compliance, focusing on the framework's adherence to legal standards and regulations within the criminal justice system. The legal professionals ensured that the framework complied with Uganda's Constitution, the Uganda Police Act, and the Criminal Procedure Act. They also considered the relevant case law and international best practices on information sharing. The legal professionals' input was essential for ensuring that the framework was legally sound and would not be vulnerable to challenge in court.

### **Judicial and court officers (N=6)**

Lastly, the judicial and court officers, though fewer in number (6), represented a variety of roles such as magistrates, judges, clerks, registrars, records officers, and a supervisory officer, with experience ranging from 6 to 22 years. This group offered administrative and procedural perspectives, contributing to the assessment of the framework's alignment with court procedures and administrative necessities. Magistrates and judges shared their thoughts on how the framework could be designed to facilitate the efficient and effective management of criminal cases. Clerks, registrars, and records officers provided feedback on how the framework could be integrated with existing court systems and procedures. The supervisory officer shared their thoughts on the leadership and management implications of the framework for the judiciary.

### **5.7.2 Evaluation Findings**

This section presents the empirical findings of the evaluation for the framework for information and sharing among criminal justice agencies. The findings were analyzed using percentages. The responses were measured on a five point Likert scale ranging from (5= Strongly Agreed, 4= Agree, 3= Not Sure, 2= Disagree, 1= Strongly Disagree). It was then collaborated with qualitative data using narrative and thematic analysis.

#### **5.7.2.1 People-centeredness and inclusiveness**

People-centeredness and inclusiveness are key principles of the framework for information sharing among criminal justice agencies in Uganda. Table 5.1 presents the findings of the evaluation on how well the framework meets these principles.

**Table 5. 3: People-centeredness and inclusiveness**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
Stakeholder interests are considered first in criminal information sharing process	0.0	0.0	36.8	26.7	36.5
Information sharing considers the wellbeing/security of the sender/receiver	0.0	0.0	18.9	45.6	35.5
Rights of people involved are put in consideration	0.0	0.0	18.9	44.3	36.8

*Source: Primary data 2022*

Table indicate that majority of respondents agreed with the view that stakeholder interests are considered first in criminal information sharing process (63.2%). This however implied that there ought to be more training and awareness creation regarding the proposed framework. Findings also show that majority (81.1%) pointed out that the proposed framework considered the well-being/security of the sender/receiver. Additionally, 81.11% thought that the rights of the people involved have been considered in the framework. These findings showed that the principle of people centeredness was satisfied by the proposed framework.

### 5.7.2.2 Do no harm Principle

The "do no harm" principle is essential for ensuring that information sharing is conducted in a responsible and ethical manner. Table 5.2 presents the findings of the evaluation on how well the framework incorporates the "do no harm" principle.

**Table 5. 4: Do no harm Principle**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
The process of sharing involves risk assessment	0.0	18.9	0.0	63.2	17.9
Risks are mitigated in the process of information sharing	0.0	18.7	9.3	45.3	26.7

*Source: Primary data 2022*

As indicated Table above, majority of the respondents (81.1%) the f framework for information sharing considers the process of sharing involves risk assessment while 72.0% of the respondents pointed out that risks were mitigated in the process of information sharing.

### 5.7.2.3 Defined purpose

It is important for information sharing to have a clear and defined purpose. Table 5.3 presents the findings of the evaluation on how well the framework addresses this requirement.

**Table 5. 5: Defined purpose**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
Requests for information communicate purpose	0.0	9.3	18.7	45.3	26.7
The purpose considers costs and risks vis-à-vis the expected response/benefit	0.0	9.3	9.3	64.0	17.3
Agencies coordinate in protection of data and information	0.0	0.0	36.0	18.7	45.3

*Source: Primary data 2022*

Results reveal that, majority of the respondents pointed out that (72.0%) Requests for information communicate purpose, while 81.3% revealed that costs and risks vis-à-vis the expected response/benefit were indicated by the framework. Majority (64.0%) also pointed out that the framework was in contention with the view that indeed agencies coordinate in protection of data and information.

#### **5.7.2.4 Informed consent and confidentiality**

Informed consent and confidentiality are essential for protecting the rights of individuals involved in information sharing. This table presents the findings of the evaluation on how well the framework addresses these requirements.

**Table 5. 6: Informed consent and confidentiality**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
Personal information is collected only after informed consent	0.0	0.0	18.9	45.6	35.5
There is individual awareness of the purpose of the information collection	0.0	0.0	18.9	44.3	36.8

*Source: Primary data 2022*

Findings also show that majority (81.1%) pointed out that the proposed framework provided for personal information to be collected only after informed consent. More so, 81.11% thought that individual awareness of the purpose of the information collection is considered in the framework.

#### **5.7.2.5 Data responsibility, protection, and security**

It is important for criminal justice agencies to have robust data protection and security measures in place. Table 5.5 presents the findings of the evaluation on how well the framework addresses these requirements.

**Table 5. 7: Data responsibility, protection, and security**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
Information sharing is done in accordance to international law and standards of information protection and security	0.0	9.3	8.0	65.3	17.3
The right to have information protected	0.0	0.0	34.7	18.7	46.7

*Source: Primary data 2022*

Results regarding data responsibility, protection, and security show that, 82.6% of the respondents agree to the view that the framework shows information sharing is done in accordance to international law and standards of information protection and security and the right to have information protected.

#### **5.7.2.6 Competency and capacity**

Criminal justice agencies must have the necessary competency and capacity to share information effectively. This table presents the findings of the evaluation on how well the framework addresses these requirements.

**Table 5. 8: Competency and Capacity**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
There is high practice of accountability	0.0	0.0	18.9	44.3	36.8
Staff equipped with information are protected	0.0	0.0	18.9	45.6	35.5
The agency performs training on information sharing staff	0.0	9.3	8.0	65.3	17.3

*Source: Primary data 2022*

Findings on the aspect of Competency and capacity show that the majority 81.1% pointed out that the framework considers the practice of accountability, protection of staff with information and training on information sharing.

#### **5.7.2.7 Impartiality**

Impartiality is essential for ensuring that information is shared fairly and objectively. Table 5.7 presents the findings of the evaluation on how well the framework addresses this requirement.

**Table 5. 9: Impartiality**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SD</b>
There is transparency in information sharing	0.0	0.0	34.7	18.7	46.7
Information is shared with Minimal bias	0.0	9.3	8.0	65.3	17.3

*Source: Primary data 2022*

Results regarding impartiality show that, 74.4% of the respondents agreed the framework consider the transparency in information sharing while 82.6 indicated that information is shared with minimum bias based on the framework.

#### **5.7.2.8 Coordination and collaboration**

Coordination and collaboration among criminal justice agencies is essential for effective information sharing. Table 5.8 presents the findings of the evaluation on how well the framework supports coordination and collaboration.

**Table 5. 10: Coordination and collaboration**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
Agencies collaborate to maintain information	0.0	17.9	10.1	53.1	18.9
Reduced duplication of information activities	0.0	0.0	36.8	26.7	36.5
The process of information sharing is open to improvement and adjustment	0.0	0.0	18.9	45.6	35.5

*Source: Primary data 2022*

In terms of coordination and collaboration, majority (72.0%) of the respondents agreed with the view that the framework supports agencies collaboration to maintain information, while 81.1% pointed out that the framework supports improvement and adjustment of the information sharing process.

#### **5.7.2.9 Infrastructure support**

Adequate infrastructure support is essential for enabling criminal justice agencies to share information effectively. This table presents the findings of the evaluation on how well the framework addresses this requirement.

**Table 5. 11: Infrastructure support**

<b>Statement</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
There is adequate technology to support information sharing	0.0	9.3	9.3	64.0	17.3
Systems support information sharing	0.0	0.0	36.0	18.7	45.3
There is adequate institutional support in terms of finance and other requirements of criminal information sharing	0.0	9.3	18.7	45.3	26.7

*Source: Primary data 2022*

Regarding Infrastructure support, 81.3% of the respondents agreed with the view that, the framework considers adequate technology to support information sharing, systems support for information sharing and adequate institutional support in terms of finance and other requirements of criminal information sharing.

## **5.8 Evaluation highlights from interviews and expert opinion**

### **5.8.1 Usability**

With regard to the usability of the framework in respect of information sharing systems, like the police and judiciary participants, the participants agreed that the framework is effective, usable and suitable in terms of an information sharing system. One of the participants said:

*“Yes, I think, it’s good you covered the basic requirements of the information sharing process such as available technology; in addition to that, the requirements of the information sharing system are useful to share the information in effective way. I believe the requirements of an information sharing system are usability and suitability for the user’s needs” (court officer).*

Another participant pointed out:

*“I see you have considered the t the usability of the framework in terms of the information sharing in a systematic way which will be effective enough and can be used easily without any difficulties, because this framework is not complicated and it is very clear in how to use it” (Police officer 1).*

Indeed the remarks from the above findings reveal that, the usability of the framework in terms of the information sharing and that it achieves its purpose.

### **5.8.2 Accessibility**

In terms of the accessibility of guidelines which generated by the framework to support the information sharing system, the participants from the police and judiciary agencies expressed their opinion that the framework is easy to use and effective to share the information through.

One judiciary participant explained:

*“Indeed, the design guidance of the information sharing framework is useful and easy to use in terms of the efficient design of the whole flow. I think it’s flexible enough and simple to use”*

A Judicial officer added;

*“.... I see the framework is effective in terms of information sharing. In addition, it's kind of flexible to use and it may not waste time” (Judicial officer).*

Opinions on the framework revealed that participants from the police and judiciary agreed that in regard to the sharing of information, the framework is usable and accessible to the extent of being easy to use, flexible, simple and suitable, and is therefore effective and beneficial.

The evaluation revealed that participants from both the police and the judiciary found the framework for information sharing to be usable and effective. They noted that the framework is clear and easy to understand, and that it meets the needs of users. One participant said that the framework is "usable and suitable in terms of an information sharing system." Another participant said that the framework is "not complicated and it is very clear in how to use it."

Participants also found the framework to be accessible. They noted that the guidelines are easy to use and that they support the efficient design of information sharing systems. One participant said that the guidelines are "flexible enough and simple to use." Another participant said that the framework is "effective in terms of information sharing" and that it is "kind of flexible to use and it may not waste time."

Overall, the evaluation found that the framework for information sharing is usable, accessible, and effective. Participants from both the police and the judiciary agreed that the framework is easy to use, flexible, and suitable for their needs.

## **CHAPTER SIX**

### **CONCLUSIONS AND RECOMMENDATION**

#### **6.1 Introduction**

Chapter two presented the literature review with a discussion on the concepts of information sharing, theories, frameworks and the principles of information sharing. Chapter four presented the results of the field study on the challenges and factors responsible for successful adoption information sharing system among criminal justice agencies. Chapter five presented a description of a framework for information sharing system among criminal justice agencies and the results of its validation. This chapter now presents a discussion of the research findings in relation to the literature, and the subsequent conclusions. The implications, limitations of the study and suggestions for future work are also given. Summaries from the preceding chapters are integrated into the discussion in order to show how the objectives set out in Chapter one were achieved.

#### **6.2 Summary of Contributions: Meeting Research Objectives**

The objectives of the study that were set out in chapter one were achieved as follows;

The challenges to effective criminal information sharing among criminal justice agencies were obtained using primary information from interviews with the officers in agencies and the results presented in chapter four. The challenges investigated assisted the researcher to determine the requirements for the design of the framework for effective criminal information sharing among the agencies. The evaluation of the information sharing framework involved police officers, lawyers, and judges. Each group had different perspectives to contribute, which helped to ensure a comprehensive and accurate assessment.

The framework for effective criminal information sharing among agencies was described and presented in chapter five,

The framework evaluation was done using expert opinion for criminal information sharing and is presented in Chapter 5

This study identified the challenges to effective criminal information sharing among criminal justice agencies in Uganda and other transitioning countries with the aim of bridging the gap that exists in the quality of information shared reliability, access and accountability in the systems. The study contributes to development of a framework for effective criminal information sharing among agencies, which is an extension of the Portsmouth information sharing framework.

The challenges and factors generated from the field under objective one was used to provide an extended framework for effective criminal information sharing among criminal justice agencies in Uganda. This framework is therefore capable of helping the criminal justice agencies, other government agencies by guiding and enabling them to successfully implement and ensure effective information sharing for the greater good of quality service delivery. The framework is flexible, generic and can be applied in other transitioning countries, and contributes to the extension of the existing theoretical models and frameworks.

The results of the evaluation conducted on the police and judiciary through the case study have been taken into account to improve the information sharing based on the Portsmouth information sharing Framework. The aspects of the developed framework which have been assessed through the focus expert opinions in both police and Judiciary have achieved the purpose of the framework, which is concerned with producing effective and efficient information sharing

system/tools. The participants from the police, and judiciary sectors were all in agreement that there is a need to apply and implement such a framework for the activities within their departments to improve the information sharing.

Through the evaluation, outcomes were used to enhance the information sharing Portsmouth information sharing Framework which required to be implemented in regard to sharing the information within the sectors of the police and judiciary. The sector participants suggest that the framework is easy to use, useful, effective, flexible and simple; these key factors show the usability and accessibility of the framework. The assessment of the outcome of the framework resulting the information sharing design and analysis of the information flow as is consider being effective.

Based on the findings, the suggestions and recommendations from the scenario of the bank were presented to the focus group members from the police and judiciary for discussion.

### **6.3 The Implications of the Research**

The outputs of the research process present several far reaching theoretical and practical implications for the Criminal Justice Agencies and consumers of the services as follows:

The results contribute to the description of a framework for effective criminal information sharing among criminal justice agencies in Uganda. Quality information-sharing strategies can help improve crime prevention, solve complex cases and improve response times. Information sharing can ultimately save law enforcement agencies a significant amount of time and money. Frameworks have been developed to explain information sharing and usage. The study described a framework explaining the workflow practices in the information sharing among agencies.

This study isolated some of the information sharing barriers facing criminal justice agencies at this point in their history and provided insights into the sometimes indecisive foundation on which all contemporary policing is based: information sharing. The information sampled from the personnel in agencies exert a direct and indirect reflection on all operations within those agencies and the achievement of any and all goals and outcomes within the agencies. In light of recent public sector reforms to improve accountability, efficiency, and effectiveness, it is surprising that little time has been devoted to understanding this important, relevant, and influential practice of information sharing in terms of its ability to support or impede organizational decisions, actions, and outcomes.

Generally, the most significant discrete challenges to information sharing within the sampled criminal justice agencies were processes and technology, individual unwillingness, and organizational unwillingness.

Within the core criminal information sharing challenges, a number of critical sub-themes emerged that have implications for agency policy and practice. Specifically, these sub-themes identified negative consequences of information silos, information hoarding, internal or external competition, personal versus collective goals, lack of absorptive capacity, lack of incentives, existence of disincentives, and lack of trust within and/or across units, sections, and agencies. The practical implications of these issues on police organizations cannot be underestimated.

Many of the issues identified by the participants in this study are indeed rooted in lack of governance/ leadership, management, and/or effective learning. For the sake of illustration, only a few of the many available examples are cited: processes and technology (lack of leadership and management), individual unwillingness (lack of leadership, management, effective learning),

presence of disincentives (lack of leadership, management, and learning), and lack of trust (lack of leadership, management, and learning). Despite the presence of a number of dysfunctional or otherwise maladaptive behaviors within these three police organizations, these issues are not irreconcilable. Therefore, possible avenues for policy and practice improvement are provided in the developed framework for criminal information sharing among criminal justice agencies in Uganda.

**Table 6. 1: Showing study implications**

<b>Challenges to information Sharing</b>	<b>Practical implications for agencies</b>
Processes and technology	Instead of facilitating the timely and effective capture, storage, and use of information, these systems and processes inhibit information flow, create disincentives for officer to contribute to and use database(s)
Individual unwillingness Organizational unwillingness Information silos Information hoarding Internal/external competition	Information and knowledge flows stagnate, effective decision making and operational capacity is reduced due to lack of timely and relevant information, Agency learning and innovation is disrupted, duplication of effort is created due to lack of awareness, Agency performance is reduced, resentment and

	animosity are created within and across agencies(s)
Lack of absorptive capacity	Information will be briefly scanned (not fully considered), ignored, deleted, or filed for expediency, decision-making capabilities and ability to focus on critical elements will be reduced, creating potential risk management issues for organization due to missed sharing/application of information or knowledge
Lack of incentives	No impetus for individual and/or organization to change negative information sharing behaviors
Presence of disincentives	Individuals and/or units are rewarded for counter-productive information sharing behaviors (such as promotion)
Lack of trust	Relevant and crucial information will be retained in-house, negatively affecting operations and investigations, duplication of

	<p>effort is created due to lack of information awareness</p>
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#### **6.4 Limitations of the study**

This research highlighted important criminal information sharing issues and challenges within criminal justice agencies in Uganda. However, these perceptions were not necessarily representative of the larger population due to sample size and the tactical versus strategic focus of the research question. Despite the limited samples, remarkable consistencies and consensus emerged across these agencies with respect to the nature of the perceived challenges to criminal information sharing.

These outcomes indicated diffuse informant reliability. Follow-up studies, conducted at the tactical and strategic levels of the agencies that include civilian and high ranked police personnel and lawyers and other high court staff, will be required to corroborate or otherwise validate the perceptions reported in this study by officers in Kira Municipality.

Several other limitations were faced when conducting the study as follows.

- 1) The study used a small sample size (16) that was specific for police officers and court officers in the field of criminal Justice. This can limit the generalizability of the finding.
- 2) The professionals especially the experts in the field of judiciary were very difficult to get, even on appointment. The data collection took a longer time than expected.
- 3) More frameworks need to be studied and compared as this study used only six (6) adoption frameworks.

## **6.5 Direction for future research**

The challenges affecting effective information sharing among criminal justice agencies obtained in this study were specifically for police and courts and particularly in Kira municipality. It is important to note these challenges may differ from those affecting high court and police head offices as well as other agencies such as Uganda prisons service. This therefore creates the need for further research to investigate challenges information sharing in other agencies. This study also needs to be carried out using a larger population.

## **6.6 Conclusions**

The study aimed at investigating challenges faced in criminal information and subsequently developed a model for explaining to guide effective criminal information sharing among criminal justice agencies in Uganda.

Each of the challenges identified represents an opportunity for each organization to review and reflect on its current information/knowledge sharing policies, practices, as well as the culture and context in which these issues arose. Although there is no prescriptive answer to solve all of the information/sharing dilemmas within organizations, a number of options are available to mitigate the impediments by improving coordination mechanisms and the context in which sharing occurs.

These options include, but are not limited to, improving agency identity and connectedness, aligning organizational culture with information sharing goals and needs, developing information sharing values, creating incentives for information and knowledge sharing, promoting boundary

spanning, controlling information overload, and improving levels of trust within and across units, sections, and departments among criminal justice agencies.

The foregoing insights into the information sharing barriers faced by officers within the participating criminal justice agencies enables leaders to better understand the needs of their respective organizations and officers, and better appreciate that information sharing cannot simply be accomplished through technology alone. A more reflective, systematic, and engaged framework that recognizes the linkage between the technical, cultural, and structural infrastructures must be undertaken so that agencies may achieve the goals placed before them.

## **6.7 Recommendations**

Based on the findings of the study on the effective criminal information sharing among justice agencies in Uganda, the following recommendations are put forward;

- 1) Adopt a unified and comprehensive framework that integrates various justice agencies for efficient and secure sharing of criminal information. This framework should encompass legal compliance, technological infrastructure, and standardized protocols.
- 2) Provide regular training and awareness programs for personnel across agencies on legal and ethical aspects of information sharing, ensuring a clear understanding of privacy laws, data protection, and the legal basis for sharing criminal information.
- 3) Invest in robust technological infrastructure that supports secure data sharing, ensuring encryption, access controls, and interoperability across different agency systems. Regularly update and modernize these systems to align with evolving technological standards.

- 4) Formulate and implement governance structures that promote interagency collaboration. Develop clear policies, roles, and responsibilities for effective coordination and information sharing.
- 5) Create standardized communication protocols and information formats to ensure consistency and ease of data exchange among agencies. Implement common terminology and procedures to enhance seamless information sharing.
- 6) Identify potential risks associated with sharing sensitive criminal information and implement comprehensive risk management strategies. This involves assessing, mitigating, and controlling risks while ensuring data security and confidentiality.
- 7) Develop mechanisms for accountability and transparency within agencies to monitor and track shared information. Regular audits and transparent reporting will enhance trust and reliability.
- 8) Provide ongoing training programs to equip staff with the necessary skills and knowledge to handle and manage information sharing effectively. Foster a culture of learning and adaptation to new technologies and procedures.
- 9) Foster an environment that encourages open communication and collaboration among different agencies. Promote the sharing of best practices and successful case studies to strengthen interagency relationships.
- 10) Implement a process for regular review and adaptation of the framework. As technology and laws evolve, ensure that the information sharing framework remains current and aligned with the latest standards and regulations.

11) Involve relevant stakeholders, including legal experts, data privacy specialists, and representatives from various justice agencies, in the development and refinement of the framework to ensure comprehensive and practical applicability.

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## APPENDICES

### Appendix A: Key Informant Interview Guide

I am **Ivan Mutekanga**, a student at the Makerere University pursuing a master's degree of information systems. As part of the programme, am conducting a study on the topic, "Framework for Sharing Criminal Information among Criminal Justice Agencies: A Case Study of Uganda Police and Judiciary" This is a kind request to have an interview with you. Your responses will be used only for this academic excursion and not for any other purpose.

Thank you and God bless you.

### SECTION A. DEMOGRAPHIC INFORMATION

#### Bio data of the respondent

##### 1. Age

20-30	<input type="checkbox"/>	31-40	<input type="checkbox"/>
41-50	<input type="checkbox"/>	51 and above	<input type="checkbox"/>

##### 2. Sex

Male	<input type="checkbox"/>	Female	<input type="checkbox"/>
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##### 3. Level of education

"O" Level	<input type="checkbox"/>	"A" Level	<input type="checkbox"/>
Certificate	<input type="checkbox"/>	Diploma	<input type="checkbox"/>

Degree

Masters

Others.....

#### 4. Position

.....

### **SECTION B**

In this section, you are required to respond to the interviewer by giving an answer verbally and if possible briefly explain and support your views about stipulated questions as required by the study.

#### **A: Information's sharing process and challenges**

- 1) What do you understand by information sharing among agencies (Police and Judiciary)?
- 2) Which type of information or records is mostly received here (Probe for the purpose of sharing?)
- 3) How is information shared? (Probe for channels, systems, technology)
- 4) What various forms of information records are created, received and managed by the agency?
- 5) In your view, how does this agency maintain information?
- 6) What are different uses of information records created, received and managed by the agency?
- 7) How reliable is the information sharing process at this agency? ( Probe for security, quality and authentication)

- 8) In your view, how has this agency followed rules and regulations expected of a good information sharing practice?
- 9) What rules and principles have been adopted by the agency regarding information sharing?
- 10) In your view, how do you rate the effectiveness of information sharing between police and judiciary?
- 11) What challenges are faced in sharing information with the Agency in question? (Probe for security, accuracy, reliability, among others)

**B: Requirements for Information Sharing**

- 1) What do you think still lacks and needs to be done regarding information creation, transfer, security and maintenance?
- 2) What are some efforts that have been useful in managing the information sharing process among agencies?
- 3) What facilities and equipment do you need for better information sharing practice at this agency?
- 4) What human resource related challenges continue to hinder your efforts in sharing information with the other agency?
- 5) What suggestions do you make for better information sharing practice at this agency?

## **Appendix B: Observation Guide**

1. What active records are shared by the agency
2. The nature of information management policies
3. What systems are used in sharing information among the agencies
4. What types of security are provided to the information shared?
5. How the process of information sharing is organized
6. Participation of officers in information sharing
7. The staff involved in information sharing
8. The current status of records and information sharing among agencies in question
9. Is the process convenient?
10. What types of storage facilities are used to store records/information?

## **Appendix C: Framework Evaluation Questionnaire**

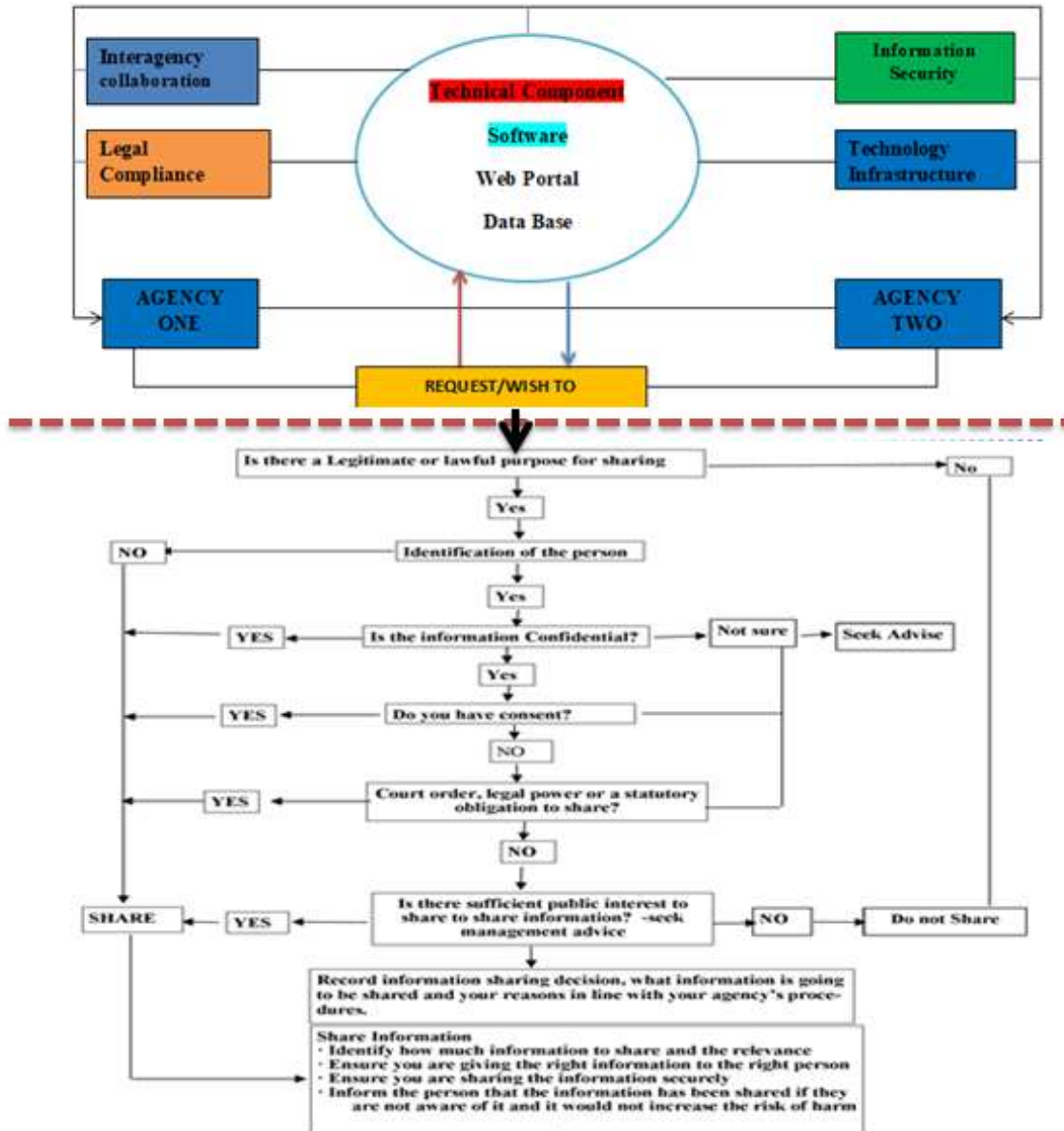
The criminal justice system in Uganda is a complex national enterprise consisting of many independent units of government (jurisdictions and agencies) that must coordinate their activities to achieve a common goal: an efficient and effective justice system. To effectively coordinate these activities, stakeholders must effectively share information. However, due to its diversity and decentralization, the justice system lacks a common framework for sharing information. Therefore, the study sought to assess the state of the Ugandan criminal justice system agencies' information sharing systems and designed a unifying complete information sharing framework for criminal justice in Uganda.

I am **Ivan Mutekanga**, a student at the Makerere University pursuing a master's degree of information systems. As part of the programme, I am conducting a study on the topic, "Framework for Sharing Criminal Information among Criminal Justice Agencies: A Case Study of Uganda Police and Judiciary"

I am requesting you to take a quick evaluation of the framework I have proposed for criminal information sharing among criminal justice agencies. Your responses will be used only for this academic excursion and not for any other purpose.

The developed framework is presented below for your evaluation

**Thank you**



**Key:**

Strongly agree (SA)=5

Agree (A) =4

Not sure (NS) = 3

Disagree (D) =2

Strongly disagree (SD)=1

Tick the most appropriate as applied to your agency

*To what extent do you agree with the following statements regarding criminal information sharing between police and judiciary?*

Requirement/principle	Attributes/statements	1	2	3	4	5
<b>People-centered and inclusive</b>	Stakeholder interests are considered first in criminal information sharing process					
	Information sharing considers the wellbeing/security of the sender/receiver					
	Rights of people involved are put in consideration					
<b>Do no harm</b>	The process of sharing involves risk assessment					
	Risks are mitigated in the process of information sharing					
<b>Defined purpose</b>	Requests for information communicate purpose					
	The purpose is considers costs and risks vis-à-vis the expected response/benefit					
	Agencies coordinate in protection of data and information					

<b>Informed consent and confidentiality</b>	Personal information is collected only after informed consent					
	There is individual awareness of the purpose of the information collection					
<b>Data responsibility, protection, and security</b>	Information sharing is done in accordance to international law and standards of information protection and security					
	The right to have information protected					
<b>Competency and capacity</b>	There is high practice of accountability					
	Staff equipped with information are protected					
	The agency performs training on information sharing staff					
<b>Impartiality</b>	There is transparency in information sharing					
	Information is shared with Minimal bias					
<b>Coordination and collaboration</b>	Agencies collaborate to maintain information					
	Reduced duplication of information activities					
	The process of information sharing is open to improvement and adjustment					

<b>Infrastructure support</b>	There is adequate technology to support information sharing					
	Systems support information sharing					
	There is adequate institutional support in terms of finance and other requirements of criminal information sharing					

Appendix D: Introductory Letter to the OC-CID, Kira Division Police

**MAKERERE**

P.O.Box 7062 Kampala - Uganda  
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URL: <http://www.cis.mak.ac.ug>



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**COLLEGE OF COMPUTING & INFORMATION SCIENCES  
SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY**

9<sup>th</sup> September, 2022

The OC - CID  
Kira Division Police  
Kira

Dear Sir/Madam,

Dear Sir/Madam,

**RE: INTRODUCTION LETTER FOR MR. IVAN MUTEKANGA**

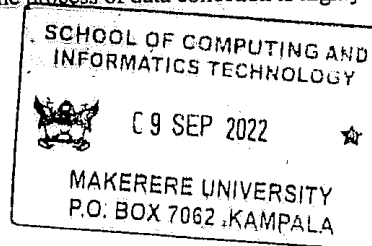
This is to introduce to you Ivan Mutekanga, a student doing a Masters in Information Systems.

Ivan is currently undertaking a study titled *A Framework for Sharing Criminal Information Among Criminal Justice Agencies: A Case of Uganda Police and Judiciary* as part of the requirements for the award of Masters' Degree in Information Systems.

Any assistance accorded to him in the process of data collection is highly appreciated.

Sincerely,

Assoc. Prof. Gilbert Maiga  
Dean



Received



Appendix E: Introductory Letter to the Senior State Attorney, Kira DPP

**MAKERERE**

P.O.Box 7062 Kampala - Uganda  
URL: [www.cit.mak.ac.ug](http://www.cit.mak.ac.ug)  
URL: <http://www.cis.mak.ac.ug>



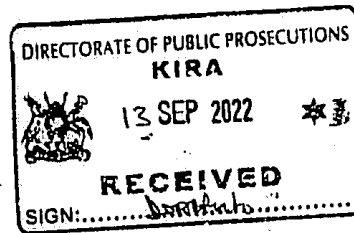
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SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY**

9<sup>th</sup> September, 2022

The Senior State Attorney  
Kira DPP  
Kira



Dear Sir/Madam,

Dear Sir/Madam,

**RE: INTRODUCTION LETTER FOR MR. IVAN MUTEKANGA**

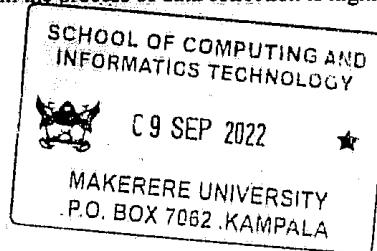
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Sincerely,

Assoc. Prof. Gilbert Maiga  
Dean



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Appendix F: Introductory Letter to the Chief Magistrate, Kira Division Magistrates Court

**MAKERERE**

P.O.Box 7082 Kampala - Uganda  
URL: [www.cit.mak.ac.ug](http://www.cit.mak.ac.ug)  
URL: <http://www.cis.mak.ac.ug>



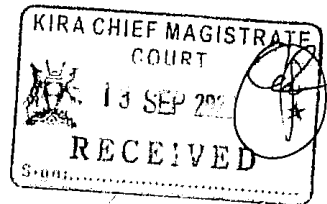
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09<sup>th</sup> September, 2022

The Chief Magistrate  
Kira Division Magistrates Court  
Kira



Dear Sir/Madam,

**RE: INTRODUCTION LETTER FOR MR. IVAN MUTEKANGA**

This is to introduce to you **Ivan Mutekanga**, a student doing a Masters in Information Systems.

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Any assistance accorded to him in the process of data collection is highly appreciated.

Sincerely,

Assoc. Prof. Gilbert Maiga  
DEAN

