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Databases in Courts: the Kenyan Experience

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Abstract

One of the most significant challenges faced by courts today is managing the performance of their case management system to meet growing case loads efficiently and effectively.

There are many different types of technology to help in developing an electronic courtroom, but the underlying technology is the database. Databases are used by courts for maintaining case records, personnel and other court management data. But many conditions such as training and technological infrastructure need to be in place to support successful systems. This work presents the results of a survey of case management operations and practices in Kenya. Current state of technology and court operations as well as a database design plan is examined. The findings of this study present a basis for planning, designing, and implementing a successful case management database system in Kenya.

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Chapter 1 – Introduction

In the Western world, technology has made it easier for court administrators, lawyers, and judges to gather and maintain data about court cases. And an essential component in the electronic filing, processing, and storage of court data is the database. But in Kenya, the judicial system still depends greatly upon paper for case management. Electronic case management is expected to arrive in Kenya one day. But will courts benefit from this application? Horror stories of failed technological implementations can be found on the Internet. To help identify risk factors which may endanger the full potential of the technology merits is the attention by academics. Numerous studies exist on electronic case management in the West, but none could be found focused on Kenya or other African countries. This study aims to fill the gap. To begin, this chapter focuses on the challenges facing Kenyan courts in moving to electronic case management. It also describes the thesis statement, problem statement and proposes a methodology to study implementation issues.

1.1 Project Introduction

Legal case management administration, like most professions, is being challenged by a number of factors that impact traditional court practices. These factors need to be addressed if the courts have to provide better services. Some of the specific challenges include:

- Providing information about the court cases promptly
- Keeping better track of all the cases for the purposes of planning and reporting
- Meeting the demands of more cases
- Improving the pace at which justice is dispensed in the country

- Predictability of court operations without compromising the integrity of judges' discretionary reasoning

A primary goal of electronic case management is to automate the processing of all documents associated with a court case. And a key component is the database to store and categorize all separate data files which are linked by some common elements such as case number ID.

In Western legal systems, the benefits of electronic case management are well documented by Fabri & Langbroek (2000). A judicial information system should be adopted by the court to: (1) automate and support the daily operations of the courts and (2) maintain a network connecting the courts and criminal justice agencies such as the police and the jails. A database should be able to structure the records storage and retrieval by ensuring that records are found as and when they are needed. A database management system (DBMS) will allow users to interact with the database. Administrative and database security tools will be used to ensure that only the authorized personnel gain access to information.

A case management system will also ensure that judges and lawyers are promptly informed about the court cases that they need to attend (Singh Manoj 2008). The problems such as unnecessary adjournments of cases would be avoided by using a case management system as the records will be available at a click of a mouse. The database should enable all the involved parties to get information from their offices or remotely. The database will run on a network to allow the sharing of information and other important notices to the concerned judges and lawyers. Case management systems will also curb the corruption that has bedeviled traditional, non-electronic court operations because there is no proper control and accountability of the court activities. With case management system all the accounts, records, billing, payments, and other

related court activities can be monitored and queried on any unclear information since proper evidence will be available. In addition, the use of database on a network will facilitate sharing of information among different courts while at the same time facilitating easy transfer of a case from one court to another. Case management system is a sure way to keeping information backup; such that in case of any calamity, the judiciary will not be worried about lost data. All in all, a well implemented case management system will ensure improved efficiency, cost-effectiveness, reliability, speed, reduced file risks, and enhanced disaster-recovery (Kelly, P. & Tastle, J. 2004).

A Case management system will also offer predictability of court operations without compromising the integrity of judges' discretionary reasoning. It also has the capacity for producing tools to support judicial activities, including programs for intelligent document assembly, case retrieval, and support for discretionary decision-making. A Case management system helps in the development of new analytical tools for understanding and modeling the judicial process, such as case-based reasoning and formal models of dialectics, argumentation, and negotiation. Lastly, the system can be used to promote uniformity and discretionary decision-making in the judicial practice, while supporting rational judicial discretion (Malik, H. 2002).

While electronic case management is advanced in the West, the conditions are not the same in Kenya. Many courts including the High Court in Kenya are still managing case records manually. When court operations are run manually, the entire court procedures suffer. Problems such as poor tracking of court cases and other court activities make court operations inefficient. Documents get lost. If a case record is missing, a case risks being postponed. When cases are postponed, this will definitely lead to a backlog of cases and put pressure on the judges, suspects

and the lawyers as well. Missing records may also lead to a case being dismissed for lack of evidence. This risks freeing accused criminals. Furthermore, traditional manual records risk being altered.

As paper records grow in volume, so does the time needed to store and retrieve the records. Hand written records may not be legible to the other people particularly during review by the appellate judges. Several cases may be dismissed by the court of appeal when the judges cannot be able to read the judgment documents from the high court. When records are kept manually, the risk of misplacing files exists which adds to the delay in accessing records; resulting on postponement of the case.

Another risk is that cases can be mislabeled. A judge, for example, may end up with a file belonging to a different suspect from the one to be tried. In an environment where any clerk can walk in to get a file, it becomes hard to track activities performed by the clerks. Cases of bribing clerks to change the content of their records have been documented. Lastly, manual case management lacks the internal controls that can help to detect unauthorized access and alteration as well as provide audit trails.

1.2 Thesis Statement

Taking full advantage of electronic case management and its database requires following the software development life cycle (SDLC). System requirements must be collected. These specifications include decisions about the type of data to collect and process; then a system design is developed. The system design determines who will use the system, how they will access it and how it will be secured. Then the software is developed and tested. Once in operation, the system is evaluated and improvements made. The process begins again if changes

occur. For this reason, a powerful database system design environment should provide the developers with interactive feedback about their database design. Thus, the thesis of this study is that courts who undertake electronic case management initiatives with a focus on the SDLC are the ones most likely to realize the full potential of technology.

1.3 Problem Statement

In Kenya, electronic case management is virtually non-existent. Currently, if a judge or lawyer in Kenya wanted case related information, they would likely have to wait days. This leads to the delays in the court processes which in turn makes the dispensation of justice a long protracted affair. The allocation of the court rooms and assignment of cases to judges can become tedious with error and omission. The result of such a system is inefficiency in scheduling of the court operations. When judges are not allocated cases and court rooms on time, the end result is a mixed up the causes a lot of delays.

In addition, the court activities are riddled with corruption since there are no effective controls or monitoring. Corruption has led situations in which convicts may be released without trials when his/her file cannot be retried or the contents changed and reduced to a lesser charge. The updating of court records also takes time to be implemented hence accurate information is never readily available. In the current state of affair there is no information security and so the courts have lost confidentiality of information and data integrity. Backup of information is another problem the courts have to contend with for now. Managing the records manually does not allow for easy backup of information. Currently if any disaster befalls the courts, all the records will be wiped out without a trace.

Every court employees are therefore facing several and varied problems depending on their work in the court. The judges are not able to access the court records as and when they

need to. They are forced to request for the case file from the clerks working in the records room. The clerks on the other hand have to search the records for hours or even days before they can locate a required file. This has led to the slowing down of the entire court process as a lot of man-hours are lost while searching for files. When a record cannot be found, the case is delayed or postponed resulting in the backlog of cases.

1.4 Methodology

To test this thesis, this researcher developed a methodology to identify critical planning and implementation issues for an electronic case management system. Using interviews, survey, and observation, this researcher focused on Nairobi, Kisumu and Mombasa law courts. The research proceeded in three phases. In the first phase, this researcher looked at the existing written academic literature. In the second phase, research survey forms were developed. The forms were sent to court clerks, judges, and lawyers. A total of 12 survey forms were sent: six to judges, lawyers, and clerks in Nairobi and six to judges, clerks, and lawyers in Kisumu and Mombasa. The forms were sent between May and June 2009. In the third phase, this researcher conducted on-site interviews using the survey forms. A total of 15 respondents were interviewed. In addition to the judges, lawyers, and clerks who received the survey forms, others interviewed included a suspect, a personal assistant to the chief justice, and an IT officer in Nairobi.

1.5 Summary

The inefficiencies and risks of manual case management systems in Kenya are high. The challenges seem to be a product of poor processes in the Kenyan judicial system. The purchasing of an electronic case management system, with its database, has the potential to improve the gathering, management, and security of court records. But the technology demands

a level of technical and management skills far beyond what was required by paper-based systems.

Chapter 2 – Literature Review

2.1 Introduction

The literature on database management systems and the handling of the court cases is extensive. However, the application of the database systems in the delivery of justice and maintaining the case file have not been covered much. In addition, literature tends to focus on Western legal systems, with little or no coverage in African or more specifically Kenyan judicial systems. A goal of this study is to fill the gap in academic literature.

2.2 Databases technologies in law and judiciary

A basic principle underlying a sound legal system is that justice should be carried out at the earliest opportunity. Information technology has made it faster, easier and less costly to gather and maintain data about cases. But while the West has advanced case management systems (Fabri and Langbroek 2000); developing countries including Kenya are far behind. In a study of Third World judiciary systems, Japhet (1997) found that the management of records leading to the dispensation of justice needed improvement. He also described the central role of databases to ensure that the public and institutions get legal information accurately and timely. Similar studies have also suggested that the lack of technology slows the dispensation of justice.

Studies have shown the benefits of legal databases in developing countries. Wilner, Norwood S. (1993) found out that business and courts that used computerized database performed much better as compared to their counterparts that had yet to embrace the use of databases. The study outlined how the businesses and courts in India have used the databases to

enhance their business and judicial operations. This document is a success story on how the law courts can make use of electronic databases to manage records.

Al-Kofahi & Jackson (2003) described an information extraction and retrieval system, called History Assistant which was used to extract rulings from court opinions and retrieve relevant information of prior cases from a judicial database. Jane (2002) outlined the necessary steps that need to be taken in developing a legal database. Buchanan & Fennell (1984) described the size of the databases, the expected transaction volumes, and the long-term value of the court records required for data manipulation capabilities and providing high performance and data integrity.

Without a database, errors and injustice can occur. Eileen & Erickson (2000) looked at the legal and privacy issues surrounding judiciary records when they are kept manually and recommended a database as a means of limiting problems. Japhet & Matthews (2000) noted that databases could make a major impact in solving the problems that lawyers in Kenya experience in accessing legal information. Similarly, Schroth & Preeti (2003) presented evidence on how the courts and other public offices in Africa are riddled by corruption due to lack of proper electronic records management methods. They argued that the only way to save the continent from vice and corruption is the development of database systems.

Nathan & Wamukoya (2007) indicated that the proliferation of electronic records in many public sector organizations, including African courts resulted in many challenges hitherto never experienced by archivists and records managers. One important challenge was that while many governments have systems and procedures for managing paper-based records, the same cannot be said for courts who lacked electronic processing of files and digital images. The authors recommended databases as the main software technology for maintaining e-records.

Electronic case management offers the opportunity to improve the quality and efficiency of the administration of court cases. Marlik (2002) identified the following benefits: 1) simplifying and rationalizing laws and procedures 2) strengthening the independence of judges 3) improving the administration of the courts 4) balancing the costs of justice; upgrading the physical facilities of the courts 5) improving legal education, training, and user perception of the legal system 6) expanding access to justice for the poor and other disadvantaged groups 7) enhancing the quality of the legal profession; providing alternative dispute resolution mechanisms 8) strengthening the impact of court decisions on society at large.

All these elements are interrelated, multidimensional and need attention over the medium and long term. The dispensation of justice is essentially a service delivered by the state to the community to preserve social peace and facilitate economic development through the resolution of disputes, the enforcement of criminal justice, and the determination of laws. To achieve all these, Malik, H. (2002) suggested a proper use of IT in all judicial matters.

Effective retrieval of court decisions is important. Automatically identifying legal concepts in the decision texts would be very helpful. In this paper Moens M. and Angheluta, R. (2003) investigated how the courts can use database technology in the improvement their activities in addition to effective information retrieval for decision making purposes. The emergence of digital dossiers in Courts of Law came with new opportunities to streamline the criminal prosecution chain. This papers by Warnier, M., Brazier, F. Apistola, M. and Oskamp, A. (2007) proposed the use of agent technology to support automatic verification of consistency and completeness of data in such technologies. It looked at how agent systems in combination with other AI technology, could be used to enforce consistency and completeness in digital dossiers in the context of a semi open environment of the Courts.

Allover the world courts are striving to increase access and improve their services. The means to achieving is through the use of database technology together with array of other technology options. Pearlman M. and Greenwood, M. (2000) introduced opportunities for service and access improvement and limitations on public sector budgets. They also took a look at the best way for courts to implement technology. Cresswell, M. Pardo, T. A. and Hassan, S. (2007) focused on the enhancement of court processes and information sharing among criminal justice agencies and courts is a critical concern and a goal of much IT investment in the judicial operations. The paper got literature from strategic management, information systems and organizational studies as well as practice theories to support this perspective.

2.3 General application of databases

Database technology provides for access to more detailed information than ever before. According to Sharma (1982) who studied how courts and the legal bodies could use databases in monitoring the crimes and criminals, database management systems scored much higher than manual records management. Elliott (2006) examined how Digital Libraries (DLs) are the focus of professional movements in the medical, legal, and scholarly communities. Her research concluded that DLs are used increasingly in the legal profession for research, computer-integrated court reporting, and for trial presentations of multimedia documents and evidence photos.

Lederer, I. (1994) looked at the future in of courts and states that the courts of the future will be fitted with high-tech teleconferencing devices and computers to the entire court processes. He clearly states that a database will be necessary in keeping the information about

the activities of the court operations. In 1999 he (Lederer, Fredric I.) wrote about the road to virtual courtrooms. Charles W. and Wheeler, Russell R. (1981) talked of introducing Information Technology to Improve the Administration of Justice in the Federal Courts. They outline several problems being faced by courts and how the use of IT could improve those operations. They clearly outlined the problems such as poor documentation of records as well as slow pace of information provision.

Grocock, J. (1996) reported that most courts are in disarray because of gross inefficiency and excessive costs due to lack of proper technology. The author proposed that database technology be introduced in courts if any meaningful improvement is expected in the entire judicial system. He even suggested the privatization of the courts if they have to achieve the required level of effectiveness, cost-efficiency, and quality assurance. According to Nasir, A. (2007), the administration of justice is an essential service delivered by the state to all its citizens. The dispensation of justice should be fair, cheap, and quick. To achieve this, the author suggested the use of database technology in the judicial operations. He concluded by looking at the main benefits of using IT in courts.

Paton & Díaz (1999) looked at database support mechanisms that enable systems to respond automatically to events that are taking place either within or outside the database system itself. The document confirmed that considerable effort and time has been directed towards improving understanding of active database systems as the underlying technology behind most systems today. The introduction of active database systems calls for new ways and methods of developing and designing database systems. The fundamentals of database design covering issues such as events, and object-oriented and relational databases are important for the development of active database systems.

A good body of research exists that compares different records management methods. Most of the body of research concluded that for enhanced operations to be achieved in any field, computerization is a must. Jones and Yolanda Patrice (2008) showed that databases have been used in the management of the records in many legal and business environments. The adoption of databases in the legal areas has shown improved activities in terms of information handling. It is for this reason that most legal organizations in the West have adopted databases for records management. The research showed that to achieve better performance in what ever area, computerized databases is essential. This research strongly brings out the need to pay attention to the fundamentals of designing and creating database systems. Without a good database design the results of such projects are bound to fail and would end up being too costly for the organization.

Alegbeleye (1998) looked at the reasons for the wide gap between developed countries such as the USA, Japan, and Britain on the one hand and developing countries like Nigeria and Kenya. The author ended by saying that only the use of database will bring relief to records management in developing countries.

Meierhoefer (1983) looked at overburdened caseloads. Though the necessary data were available from the administrative agency which prepares annual statistical reports for the court system, they were not organized in a way to permit the case tracking analyses called for by the research design. As a result, the author concluded that judicial database was needed to integrate pertinent old court case data with new information as it became becomes available.

Technology can help ease case loads. Woodin (2001) looked at how a new advisory system for judges could achieve substantial recognition and acceptance in a short time. But key to the rapid development and testing of this new system was the use of a modified version of the

prior system to generate web files that were within the database. The author concluded that the most fruitful field for classical expert systems may lie in their use of a proper database system that can handle large volumes of data, while providing much needed data security and integrity.

The development of a database system can enhance the information behavior of judges and prosecutors. Lin & Pu (2005) showed that legal resources are mainly used to support judges and prosecutors when conducting justice and criminal investigation, and they are mostly interested in the information being able to solve practical legal problems. The authors noticed that there was a need to improve the publication of legal resources, legal information services, legal information system design, and law education.

King & Stanley (1985) investigated ways to improve and optimize judge output through the use of computerized databases. They came up with a general methodology that described how database systems could be used in optimizing the likelihood of computer-generated records being admissible in a U.S. court of law. The only drawback of this paper was that it did not support a formal legal guide; instead, it was intended as an overview of entire court issues in an informal environment.

A publication on legal knowledge based systems by Schild & Zeleznikow (1999) introduced distinct forms of judicial discretion that required a database. To model the different discretionary domains, the authors introduced artificial intelligence tools that would include case-based reasoning and knowledge discovery from databases. They carried out a more detailed comparison of two discretionary legal knowledge based systems and concluded that for best results, a database system was necessary in the courts.

The impact of how digital dossiers can be used to streamline the criminal prosecution chain in various courts across the world has been studied by Warnier, Brazier, Apistola &

Oskamp (2007). The authors proposed the use of a database agent technology to support automatic verification of consistency and completeness of data used in such dossiers. They sketched out the database agent systems in combination with other artificial technology to determine how they can be used to enforce consistency and completeness in digital dossiers in courts.

But challenges do exist. A study carried out by Makri (2007) found out that it was not easy to use digital law libraries. Makri concluded that this was due to poor knowledge of the digital library system rather than from poor general electronic research skills. She reckoned that hazy and faulty system-related knowledge were the main reasons for this trend. The paper suggested that there was need for academic lawyers and judges to understand more about the digital library systems to assist in the development of the same.

To take full advantage of technology in the court room requires careful planning and design. Buchanan and Fennell, (2004) explained that the newness of the court application area, together with the experimental nature of the initial prototypes, required that the system building tools be as flexible and efficient as possible for effective software design and development. The size of the databases, the expected transaction volumes, and the long-term value of the court records required a data manipulation system capable of providing high performance and integrity.

2.5 Summary

As the field of information technology has expanded, researchers have shown interesting interest in the role of technology in courts. But the literature on the use of databases in courts and the entire judicial system is still scanty. In Africa, such information is even scarcer, and this

can be attributed to the African courts lagging in the use of technology. Most of the research on the application of technology in courts is mainly concentrated in Europe and America. This is an indicator that most of the developed world has embraced technology in their judicial system while the developing countries are still grappling with the tedious manual filing methods which hinders the fast and fair dispensation of justice.

Chapter 3 – Project Approach/Methodology

3.1 Introduction

This chapter describes the research methodology used. Data were obtained from interviews with judges, court clerks, and lawyers from three courts within the country: Nairobi, Mombasa and Kisumu. This researcher also managed to interview one ICT officer from Nairobi, a personal assistant to the chief justice in his Nairobi office, and a suspect in Kisumu. These participants were selected on the basis of their different involvement in the justice process and because they regularly worked with or were impacted by the manual filing systems.

Most of the respondents were from the Nairobi law court which handles more cases than any other court in the country. Nairobi is the capital of Kenya with the highest population in the country. Of the 17 people contacted, 15 agreed to participate as Table 3.1 shows. The interviews were held between June and August of 2009.

Table 3.1: Respondents

Respondents	Court	Number Interviewed
Judges	Nairobi Law court	2
	Mombasa	1
	Kisumu	1
Lawyers	Nairobi Law court	2
	Mombasa	1

	Kisumu	1
Clerks	Nairobi Law court	2
	Mombasa	1
	Kisumu	1
ICT officer	Nairobi	1
Personal Assistant to the chief justice	Nairobi	1
Suspect	Kisumu	1
Total number of respondents		15

3.2 The Survey Methodology

The research used three instruments: questionnaire, observation, and on-site interviews.

3.2.1 Questionnaire Objectives

A week prior to site interviews, a questionnaire was sent out to the participants. The only people that did not receive a questionnaire were the IT officer in Nairobi, a personal assistant to the chief justice in his Nairobi office, and a suspect in Kisumu. In all cases, this researcher used the same questionnaire, but selectively on the three unplanned respondents.

The questionnaire focused on:

- Getting a general feeling of the judiciary processed

- Exploring constraints in the dispensation of justice
- Identifying the judiciary practitioners and the role they play
- Understanding the barriers that lead to the delays in our court systems
- Identifying whether there are any delays caused by the manual filing system
- Capturing how the players would like the court process improved

The questionnaire is found in Appendix C.

The questionnaire used in the study was designed to capture as much information as possible. The main aim of the study was to determine the extent to which court operations failed to meet the expectation of judges, lawyers and the suspects. The questionnaire also addressed issues of efficiency, reliability, effectiveness faced with current filing method. The current filing method was thoroughly scrutinized in terms of benefits and drawbacks.

Different sets of questions were prepared for the court clerks, judges, lawyers, and suspects. The questionnaire for the clerks had a total of 22 questions, while the one for lawyers had 10 questions. The questionnaires for both the judges and suspects had six questions each. In all cases, more questions were added during the interview as the need arose. The questionnaires were also adopted when the researcher interviewed those who were not initially planned to be interviewed. Subjects who were interviewed outside the initial list included: IT officer and the personal assistant to the chief justice.

3.2.2 On-site Interview Objectives

The objectives of the interviews were to:

- Chat with the suspects over their agony as they wait for justice

- Understand the where the problem is from the court clerks
- Talk with lawyers to identify how they would like the courts to operate
- Witness the problems firsthand
- Talk to judges over the delays in the court processes.
- Get projections about future electronic filing systems using databases?

Copy of the interview questions found in Appendix C.

3.2.3 Observation Objectives

During the site visits, demonstrations of manual filing systems were witnessed.

Observations about how records were kept and the difficulty in finding records were collected.

Court sessions were also attended by the researcher to gain first hand knowledge of how the records impacted judicial activities.

3.3 Summary

Using questionnaires, on-site interviews and observations, the researcher interviewed judges, court clerks, and lawyers from three courts within the country. These people were selected as prime interviewees because, in most courts, this group is charged with collecting, storing, and retrieving files. Thus, these people would be most likely to provide the kind of detail needed to study challenges of current filing systems and embrace opportunities for electronic systems.

Chapter 4 – Data Analysis and Findings

4.1 Introduction

As we saw in Chapter 3, questionnaires, interviews and observations were used to obtain data. This chapter presents the findings of the study, highlighting the challenges of current manual filing systems and conditions that support successful electronic systems for file management.

4.1.1. Respondents’ Profile

As indicated in Table 3.1, the respondents comprised four courts clerks, four judges, four lawyers, one suspect, one IT officer, and one personal assistant to the chief justice. This represents a response rate of 26.66% for the clerks, judges, and lawyers and 6.66 % for the remaining respondents of suspects, ICT officer, and personal assistance to the Chief Justice.

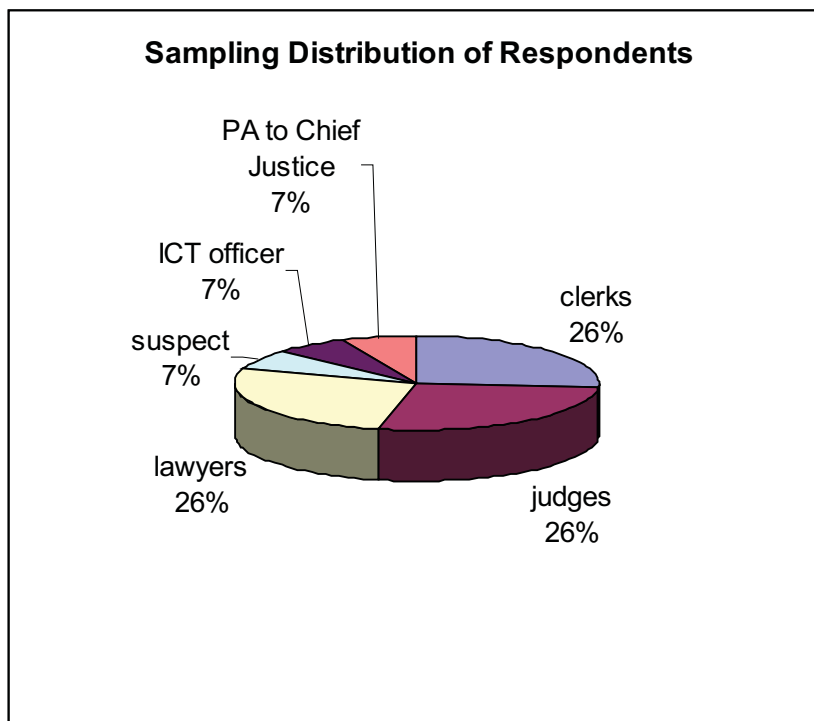


Figure 4.1: Sampling Distribution of Respondents

4.2 Survey Findings

The researcher considered nine questions that are expected to give insight into current challenges with the manual systems and opportunities for electronic systems.

1. Are Electronic Records Management Used in Core Administrative Activities?

Results reflected no use of electronic records. All the respondents were unanimous that the current filing method is completely manual. Most of the participants had a strong feeling that this method was outdated and should be changed. The age of participants, however, did appear to make a difference. Of all the respondents, this researcher found out that the younger and more energetic judges, lawyers, and clerks, (about ninety percent of all respondent), were more likely to favor an electronic system and felt that the manual filing systems should be replaced. Older participants tended to favor the existing manual system, perhaps because they were used to it and were reluctant to change.

The problems caused by the manual filing method seemed to concern every respondent. The main problem was on the slow access and retrieval speed. The respondents felt that one way to improve the pace at which cases were attended to was to have a drastic shift away from the filing method. A better method that would enhance storage, retrieval, and updating of the court records needed to be identified.

The consequences of slow speeds jeopardized speedy and fair trials. Eighty percent of the judges interviewed said that several cases were delayed due to poor filing methods. All respondents recognized that caseloads were increasing daily; and unless something was done urgently, the court performance would continue to deteriorate. In Nairobi, for example, over 3,000 records are retrieved on a daily basis. With manual filing methods, the clerks

acknowledged that they spent a lot of time filing and locating the files for retrieval. Many times when the records were not filed properly, judges had to postpone cases. About thirty percent of the cases get delayed to failure by the clerks to properly file the records.

Another challenge associated with manual filing method was that files get lost. The respondents felt that due to corruption and poor filing, the manual filing had led to the loss of many documents from the court. When this happens, the case is either dismissed or the police are asked to perform new case investigations. It is also important to state that the clerks found manual file management to be insecure since records can be accessed by anybody entering the filing room. The lack of records security risks unauthorized access and bribery. The researcher found out that about 20% of the records were tampered with or removed from the filing room by the clerks at the courts without any authority.

The risk that a disaster such as fire would destroy records was also noted. Backup information is vital for any organization as a way of having a fallback strategy in situations of any eventuality. Moreover, some of the participants complained that justice was slowed by the fact that information cannot be shared among the judges in different courts across the country. Files to other courts have to be copied and mailed.

2. How Long Does It To Retrieve Records with the Current Filing Method?

Fast retrieval of a growing number of court files with an electronic system is expected to influence success of an electronic system. But, the researcher found that retrieval times are growing as caseloads increase.

Caseloads keep on growing. In Nairobi, where most of the cases are handled, for example, the clerks told the researcher that they work with over 3,000 files every single day and

this number keeps on increasing. In the Mombasa law court, clerks deal with about 2,000 records every day. In Kisumu and other smaller law courts, about 500 records are processed each day. In all courts surveyed, the number of cases keeps increasing.

One judge in Nairobi averaged about 70 cases a day. Other judges, particularly those dealing with traffic related offences, handled more cases in a day. A lawyer in Nairobi estimated that he had to handle up to 20 cases a day. The increase of caseloads suggests that courts need to improve the speed of file handling and management. The personal assistant to the chief justice responded that due to the large increase in cases, more judges were being hired. But even with more judges, if the records management is not improved, the pace of dispensation of justice will remain slow.

Record access times were also growing. The clerks in Nairobi told me that a single record takes between 30 minutes to 1 hour to be located. In some circumstances, a record may be found within a short time, while at other times records take too long to be retrieved. This is also the case in other courts around the country. A lawyer said that there were times when he had to wait a long time for a case record to be retrieved. Judges also talked of delays caused when the case records cannot be located by the clerks. As the storage rooms get congested and case loads continue to grow, the time it takes to locate a record and present it to judges increased.

3. How Are Records Identified in the Current Filing Method?

All the court case records contain a unique identifier called case number. But while the majority of the clerks agreed that case numbers were a good method of identifying records, there is no synchronization of the case numbering from one court to another. As a result, records from different courts can have the same number. This also means that when transferring a case from one court to another, a new number conforming to that court must be assigned.

4. What Is Your Expectation of a Good Filing Method?

All the respondents felt that the current filing method was poor and that it should be replaced. The clerks responded that they would like to have a filing method that is easy to use, and fast in terms of retrieval, updating, and storage. They also wanted to have a method that was not prone to errors while would provide better security. The clerks desired disaster recovery solutions to avoid any loss of information in case of any calamities. Tracking record access and changes with audit trails was also desired. One clerk responded that she would like to have a method that can track who, when, and what changes were made to a case file.

The judges were mainly concerned with the speed of retrieval as they said they waste a lot time waiting for information from the clerks. The judges said that they would prefer a filing method that was efficient and effective if the speed of justice dispensation improved. The judges shared the view that any new system should prevent tampering and ensure that information is readily available and accessible. Another problem that should be solved by the method is that of loss of information. The judges told the researcher that any new system should ensure that confidentiality, integrity and availability of case records.

5. What is the Level of Computer Understanding and Experience?

Twenty percent of the respondents did not consider themselves to be computer literate. About 80% of the judges had little knowledge of computing. Although computer skills were weak, they seemed to believe that using a computer in the dispensation of justice was needed. They did feel, however, that computers should be used by clerks, not judges.

The older clerks (above the age of 45 year old), which comprised about twenty five percent of the total number of clerks, had little knowledge or experience with computers. To ensure that the clerks were computer literate, any job advertisement for clerks required basic

computing knowledge such as Microsoft Office. Most of the lawyers appeared to have some computing skills. The IT officer mentioned plans to have the clerks trained on basic computer skills. A similar plan for the judges would also be organized, but he could see some resistance as the judges always said they were too busy for training

6. Does an ICT Department in the Judiciary Exist and What is its Function?

The results from the survey revealed controversy. The Nairobi court has used an IT department for several years. But 80% of the judges and clerks responded that the IT department had not done much to improve records management. The IT department was mandated to provide two functions: (a) provide IT service to the accounting department and (b) to manage and maintain the judiciary website. IT relied on the court room to determine what information to be managed by the accountants and information for the website.

The judges were aware of the use of computers in courts, but they wondered why the computers had not been introduced in the management of the case records. The IT officer interviewed told the researcher that their mandate did not include the management of the case files. The IT department was not concerned with the problems faced by the court clerks as this is not within their mandate. In the process of gathering information, this researcher realized that the IT staffs were small in number; perhaps due to the limited support functions provided. During on-site visits, for example, the researcher realized that the accounting department only used IT services for the payroll processing.

The researcher was under the impression that the payment of fines was computerized. But that was not the case. The fines desk had no computer in sight. In the other courts across the country, apart from the Nairobi laws courts, computers are rare. This was a clear indication that the IT department is not a major judiciary department. The researcher spoke to the IT

officer, who indicated that they would like to improve the records management at the courts across the country, but no mandate existed.

7. What Happens if a File Cannot be Located?

The results confirmed that if case a file cannot be traced, the case is postponed to a different date in anticipation that the file will be found. The judges told the researcher that a case can only be postponed five times. After the fifth delay, the police may carry out a new investigation. If this is not possible, the case is dismissed. A lawyer told the researcher that most case files that disappear contain sensitive information. Lawyers on their part would prefer that when a case file is lost, the case be dismissed. Some clerks told the researcher how some of their colleagues have lost their jobs when they cannot find a sensitive case file. The personal assistant to the chief justice said that loss of a file is a serious offense that can result in either dismissal or jailing of the clerk.

8. How Can Records Management be Improved?

This question received various answers. But they all converged at one point: there was need to improve the way records are kept by the courts. One of the judges told me that the best way would be to add more clerks to handle the court cases, but he soon realized that this will only solve the problem of file management speed. When it came to errors, lost files and unauthorized access and backup of information, he realized that even with a greater number of clerks these problems will continue to persist. Other judges felt that the best way to solve the file management problem would be to computerize case files in all the courts across the country. The judges felt that even if they were not be required to update the records online, storage and retrieval of records by the clerks need to be computerized. They sighted the problem of poor computing skills and rejection of computer information systems by the older court personnel.

The judges also strongly felt that the chief justice and the attorney general had let them down, by turning down most of the recommended reform to the judiciary. Some of the judges said that they had some computing skills and there were just wondering when the operations of the court would change.

Some of the clerks had no knowledge how computers could be used to enhance information access, storage, and security. After the researcher conversed with most of the clerks, it became clear that they really needed to see some improvement in the way they store and retrieve records. Their main problem was that they were not aware that database systems could be developed for such records.

Others blamed the IT department for not helping them improve records access time. As the researcher came to realize, some of them had never used computers. During the site visits, some clerks were categorical that the slow pace towards computerizing the case files was not their responsibility. The majority of the clerks told me that they are ready for any change and that training would be critical. All the clerks across the country believed that as time passed, electronic systems would be inevitable, largely to handle growing caseloads. These sentiments were also echoed by the personal assistant to the chief justice.

On the other hand, the lawyers felt that the president of Kenya who has the power to hire the chief justice of the country should bring in fresh people who can make changes in the entire judiciary. They believed that the computers are a must if the judiciary is to become effective and efficient. They said time had come for everybody in the country to embrace technology and the judiciary should not be left behind.

Respondents who managed to travel to Europe and America talked of how the West has managed to use technology in the judiciary especially in locating, storing, and updating records.

All of them were quite upbeat that the entire judiciary should borrow a page from their Western counterparts.

The interviews showed that few people would resist efforts to computerize courts. Even suspects seemed to appreciate such a move. The researcher had a conversation with one of the suspects who told him of how he had been coming to court only to be told that his file could not be found and the case was postponed. He provided first hand experiences on how he continues to suffer because his file cannot be located

Discussion

The results of this study highlighted a number of conditions that support successful electronic file management. There were some differences of opinion. Older judges and clerks tended to view electronic case management system as a way of getting them out of their jobs. Most of them indicated that instead of computers, the chief justice should just hire more clerks to handle case files. Newly hired judges totally differed with their older counterparts; they felt that improving the speed and security of files was essential. Nevertheless, there was unanimous agreement that the current manual filing method should be replaced. The perceived benefits of an electronic system such as presence of online files, ease of use, speed of retrieval, avoiding the need to cancel trials and improved security were widely recognized.

Comments from the respondents

All the respondents were of the same opinion that an improvement must be done urgently. They all talked of the burdens resulting from the large increase in caseloads and how a better filing and records management method was needed quickly. The clerks pointed out that they did not know what to do in case a record could not be found, other than repeated searches of the file room and judge's desks. They desired a method devoid of errors and unauthorized

access. Most of the lawyers felt the chief justice should be made to understand that most of the delays in the dispensation of justice were caused by poor filing method.

Even though there is general consensus on the use of information technology to manage and handle the case file, the results showed that making full use of an electronic records management system had to overcome the following constraints:

Constraint 1: Resistance

Some of the judges and clerks viewed the introduction of technology into the court processes as a threat to their jobs. Education and a pilot system can help to overcome such resistance to change.

Constraint 2: Computer Skills and Experience

Most of the respondents had little or no computing skills. A proper training plan will have to be developed if the users are to be effective in their respective operations with the database. To be effective, the system must be used by all users.

Constraint 3: Technical Requirements

If the judiciary is going to adopt electronic systems, hardware and software requirements need to be clearly defined to ensure a successful integration. Other requirements such as networks to interconnect departments and courts in other cities must also be properly planned and installed for effective operations.

Constraint 4: Power Backups

Due to frequent power failures in the country, power backups systems are critical. Uninterruptible Power Supply units should be installed to ensure continuity when power is swapped from main electric to generator power backup.

Constraint 5: File Conversion

Existing manual files will have to be converted to electronic form. Whether they will be scanned or typed into the new file system can be determined by the stakeholder. The most appropriate file conversion method should be applied.

Constraint 6: Information Security

During the planning stage of the SDLC, security should be addressed. This is a requirement to ensure confidentiality, integrity, and availability of court files. This will ensure that audit trails can be used detect unauthorized access and minimize fraud.

Constraint 7: Computer Support and Maintenance

It is a known fact that if computers are not well maintained, they may fail frequently. To avoid such failures, a strategy should be developed to maintain the systems.

Constraint 8: Information Backup strategy

Because of the unforeseen circumstances that may lead to loss of information, the judiciary will have to design an information backup strategy. This will enable the judiciary to be sure of retrieving information even after a disaster has occurred.

Constraint 9: Networks

The judiciary will have to build a network to share files among different court locations. Network will also facilitate transfer of file as well communication among the clerks, judges, and lawyers at different stations. A common file numbering system will be critical to avoid duplications.

Constraint 10: Risk analysis and mitigation

Any implementation team must assess the potential risks to establish a risk mitigation plan. A risk analysis will prioritize risks and lay the foundation for a project and information systems security plan. The System must adapt to the processes of the court, not force the court to

adopt new processes. This requires the database design to reflect business processes via conceptual, logical, and physical database modeling.

4.3 Summary

Using data from the survey of users who interacted directly with the current manual file management, the researcher found various barriers to fair and fast justice. Key barriers included:

- Delays in justice dispensation due to lost or misplaced files
- Lack of records backup in case of disaster
- Poor or no security features
- Lack of consistency in justice delivery

The study also identified conditions that support successful electronic systems. The researcher found that successful utilization of electronic database systems in the courts could lead to the following:

- Quick delivery of justice to the convicts
- Improved accuracy and consistency
- Better records security
- Easy backup of court records in case of any eventuality
- Easy monitoring of court activities by the chief justice

The study also provided a starting point for planning and installing such systems. System stakeholders should be aware the following constraints need to be addressed:

- To take advantage of the full range of electronic filing possibilities, they must be integrated with existing court processes,
- Change management to help ensure everyone supports the project

- Establish an SDLC methodology to identify the inputs, processes and outputs of the electronic system
- Hire the right personnel that will who will design, develop and maintain the database
- Setting up of a network for connect all the courts in the country
- Proper conversion of manual files to electronic, which can include backfile conversion
- Computing skills that will enable users and judges become effective users of the system
- Purchase and installation of power backups that can support systems in case of power blackouts.

Chapter 5 - Conclusion

A database to acquire, store, manipulate, analyze, retrieve and distribute court files can support fair and fast justice. Thus, relieved from many routine paper handling tasks, legal professionals in Kenya can hopefully develop a customer service orientation and participate more fully in the legal processes. The court systems used in the Western countries have enabled the following:

- Minimizing chances of data duplication
- Allowing only authorized users to gain data access
- Provision of complete and clean reports of all the operations of the judiciary
- Provision of different hot-keys to save time of the operator during data entry
- Easy organization of legal materials and Tools

Most of the literature on case management systems is focusing on European and American Judicial systems with little information about Kenya. Overcoming this gap was a goal of this research. This research looked at where Kenya is in terms of computerization of its court operation currently, and proposes actions that need to be taken if Kenya is to improve its court operations.

This study presented the results of a survey of users who interact directly with court file system. The first objective was to identify the shortcomings of the current situation. The results from the study suggest that the slowness and inconsistencies in the court activities were as a result of inefficient and insecure manual processes. The shortcomings identified can only be eliminated through the use of electronic database system.

The second objective was to identify conditions for a successful system. The results suggest that the success of the electronic database system will depend upon how well it addresses the main problems faced by the judiciary. If, for any case the system fails to address any of the outlined problems, the system may never be accepted. To ensure that this system will meet the needs of the judiciary, requirements for the new system need to be defined.

The study also has practical implications for the practitioner who wishes to plan and install systems. There are a number of system implementation constraints that need to be addressed prior to installation and subsequent use of the system. The research suggests that the constraints such as power backup system, network installation, and user training are important for effective use of the system and should be completely planned.

The study also provides areas for future research. First, the resistance to change needs urgent attention. To be effective, the system must be used by all the court personnel. Second, court processes may need to be redesigned in order to make effective and efficient use of the technology. Lack of knowledge will lead to inefficiency and will prevent the courts from making full use of an electronic system. The research suggests that constant monitoring, evaluation, and auditing of the technology must be done to ensure that system meets needs and is secure.

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Appendix A: Terms and Definitions

Adjournment: The postponed of court hearing for a later date.

Constraint: A limitation of any kind to be considered during planning of a project.

Court: A forum used by a state to adjudicate disputes and dispense civil, labour, administrative and criminal justice under its laws.

Database: Collection of information organized in such a way that a computer program can quickly select desired pieces of data.

Dataset: Datasets consist of all of the information gathered during a survey which needs to be analyzed.

Deliverable: Measurable outputs or change produced by a given program or activity

Digitize: To convert any hard copy paper forms to digital.

Documentation: The production of manuals, tutorials, and help files that provide information that a user needs in order to use a computer system or software application

Implementation: The installation of new databases and application programs, and the adoption of new manual procedures.

Judiciary: A system of law courts that administer justice and constitute the judicial branch of government.

Maintenance: The modification of a software product, after delivery, to correct faults, to improve performance or other attributes, or to adapt the product to a changed environment

Metrics: Quantitative measurements for success of outcomes and results

Normalization: The process of reducing a data structure to reduce data redundancy (duplication) and data anomalies (data inconsistencies).

Prototype: A working model that is not yet finished but that represents the major technical, design, and content features of the requirements.

Stakeholders: Individuals or organizations affected by or affecting the behavior of a company or an organization.

Strategies: Activities that are implemented towards the achievement of stated measurable objectives.

Testing: The act of subjecting an object to experimental examination in order to determine how well the object works.

Appendix B: Abbreviations

AG – Attorney General

CJ – Chief Justice

DBMS –Database Management System

JIS – Judicial Information Systems

SQL – Structures Query Language

IT – Information Technology

Appendix C: Survey Form

Questionnaire for the court clerks

1. Do you use electronic filing methods?

YES	NO

If yes, skip to Question 3

2. What filing method(s) do you use in keeping court records?

<input type="radio"/>	Microfilm
<input type="radio"/>	Microfiche
<input type="radio"/>	Original document
<input type="radio"/>	Tape
<input type="radio"/>	Other

3. How long does it take on average to locate the necessary court records using the method?

<input type="radio"/>	< 30 minutes
<input type="radio"/>	30 minutes to 1 hour
<input type="radio"/>	1 hour to 6 hours
<input type="radio"/>	Other

4. How many records on average are retrieved / processed every day?

<input type="radio"/>	< 10
<input type="radio"/>	10 to 50
<input type="radio"/>	50 to 100
<input type="radio"/>	Other

5. With the current filing method, how are the records identified?

<input type="radio"/>	Using Case Numbers
<input type="radio"/>	Using National Identification number
<input type="radio"/>	Using Personal Identification Number (PIN)
<input type="radio"/>	Using Accused Name
<input type="radio"/>	Other

6. Are there any losses or misplacement of court files?

YES	NO

If no, skip to Question 8

6. What causes loss or misplacement of records?

<input type="radio"/>	Poor filing
<input type="radio"/>	Poor updating strategies
<input type="radio"/>	Wrong identification method
<input type="radio"/>	Too much work (filing)
<input type="radio"/>	Other

7. What happens in case a file cannot be located?

<input type="radio"/>	Case is delayed
<input type="radio"/>	Case postponed (rescheduled)
<input type="radio"/>	Case A new file is generated
<input type="radio"/>	Other

8. Is the court filing efficient?

YES	NO

If NO, skip to Question 10

9. What causes of inefficiency?

<input type="radio"/>	Poor filing
<input type="radio"/>	Poor updating strategies
<input type="radio"/>	Complex identification method
<input type="radio"/>	Too many files
<input type="radio"/>	Other

10. Do you have any kind of records backup?

YES	NO

If yes, skip to Question 12

11. Why isn't there any record backup

<input type="radio"/>	Poor filing method
<input type="radio"/>	No backup policy
<input type="radio"/>	Other

12. Have records ever been accessed by unauthorized person(s)

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

If NO, skip to Question 14

13. What are the causes of unauthorized access?

<input type="radio"/>	Unsafe physical security
<input type="radio"/>	Any clerk can access any record
<input type="radio"/>	No security controls
<input type="radio"/>	Other

14. Does court have an ICT department?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

If no, skip to Question 16

15. What are the responsibilities of the ICT department in the records management?

--

16. Is there any national standard used in maintaining court records?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

If NO, skip to Question 18

17. State national standard used in maintaining court records throughout Kenya

18. What is the computer literacy level among judges and court clerks, lawyers

Very low

Low

Average

High

Other

19. Outline the major problems with the current filing method?

Slow

Unsafe

No backups

Too demanding

Unorganized

Other

20. What kind of improvement would you like to have?

Improved records management

Better record identification

A backup system

Flexible storage and retrieval of records

Controlled record access

Other

21. Why do you think you need it?

22. Comments

Questionnaire for Lawyers

1 How is the court case files kept?

<input type="radio"/>	Manually
<input type="radio"/>	Computerized
<input type="radio"/>	Other

2 Are the records easily located by the clerks, when and where they are needed?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

3 Is the current filing system of the court records effective?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

4 What problems do you face with the current filing method?

<input type="radio"/>	Delays
<input type="radio"/>	Loss of files
<input type="radio"/>	Files take too long to be updated
<input type="radio"/>	Unauthorized access to records
<input type="radio"/>	Other

5 What is your expectation of a good filing method?

--

6. Have you ever experienced a loss or misplacement of case files for your client?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

If NO, skip to Question 8

7. How often do you experienced a loss or misplacement of records

<input type="radio"/>	All the time
<input type="radio"/>	Most of the time
<input type="radio"/>	Once in a long time
<input type="radio"/>	Never
<input type="radio"/>	Other

8. How often do you find records with errors?

<input type="radio"/>	All the time
<input type="radio"/>	Most of the time
<input type="radio"/>	Once in a long time
<input type="radio"/>	Never
<input type="radio"/>	Other

9. Are the records easily and efficiently updated?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

10. Comments

--

Questionnaire for judges

1. How is the court case files kept?

<input type="radio"/>	Manually
<input type="radio"/>	Computerized
<input type="radio"/>	Other

2. Are there cases that delay or postponed because the records cannot be located easily?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

3. Do the records contain errors due to poor filing method?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

4. What improvement would you like to see in the management of court record?

--

5. Are the records placed in the right order all the time?

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

6. Comments

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Questionnaire for suspects

1 Have your case ever been delayed because the records cannot be traced?

YES	NO

2 Have your case failed to take off due to lack of records?

YES	NO

3 Are you happy with the way the records are managed?

YES	NO

4. Comments