

**INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEMS  
IMPLEMENTATION AND ITS IMPACT ON PUBLIC PROCUREMENT  
PERFORMANCE AT NATIONAL GOVERNMENT OF KENYA**

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**DECLARATION**

This research project is my original work and has not been presented for an academic award in any other University.

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## **DEDICATION**

This research project is dedicated to all those who gave me inspiration of pursuing my dreams. A special dedication to the rest of my family members and friends, thanks a lot for your support and encouragement during my academic journey.

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## **LIST OF ABBREVIATIONS**

GoK	:	Government of Kenya
IFMIS	:	Integrated Financial Management Information Systems
IT	:	Information Technology
ROK	:	Republic of Kenya

## ABSTRACT

The recent introduction of IFMIS at the National Government of Kenya is advancement in technology aimed at improving procurement practices. IFMIS not only increases the efficiency of procurements, but also increases accountability in procurement. However, the exact effect it has on procurement performance has not been fully established by the available literature. This study aimed at establishing the implementation and impact of integrated financial management information system on procurement performance at the National Government of Kenya. The researcher used cross-sectional survey approach in conducting the study where all the ministries at the national government were studied at their National level points. The population of interest consisted of all the 18 ministries under the National Government of Kenya as such the procurement managers were targeted. This study mainly used primary data collected using questionnaires. The questionnaires included structured and unstructured questions and was administered through drop and pick later method. Data collected was quantitative in nature. The descriptive statistical tools helped the researcher to describe the data and determine the extent used. This included frequency distributions, tables, figures, percentages, means and standard deviations. Further, descriptive statistics were used to analyse the information on factors affecting the implementation of integrated financial management information system on procurement performance of the Kenyan Government Ministries. In addition, the study conducted a multiple regression analysis to show the relationship between implementation of IFMIS and procurement performance in the public sector in Kenya. The study found out that ministries under the National Government had adopted various e-procurement practices to enhance their procurement performance. Multiple regression analysis was used to determine the relationship between IFMIS and procurement performance. The study found that adoption of IFMIS by ministries had a significant impact on their procurement performance. The study concluded that IFMIS adoption has a positive impact on the procurement performance. The study recommended the government should undertake more awareness programmes to create positive stance towards e-government projects amongst stakeholders where IFMIS falls. The study also recommended that the ministries should appoint procurement oversight committees that will see implementation of IFMIS on procurement practices at their respective ministries.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

A strong financial management system is a key component for economic growth and development. It ensures that the government and its departments raise, manage and spend public resources in an efficient and transparent way. The government of Kenya has recently undertaken a number of public financial management reforms aimed at enhancing transparency and accountability targeting public procurement among others (Republic of Kenya, 2011).

Developing countries have invested heavily in information management systems in order to benefit from advances in information technology which enables firms or organization to redefine business processes and develop new business models (Heo, 2013). These countries particularly in Africa have reported positive progress in better procurement performance across countries in the adoption of integrated financial management information systems (Wainaina, 2014).

Strengthening public procurement in government departments has been a continuous focus since 1990s with revolutionary shift towards the integration of public procurement systems in a significant number of developing and developed countries (Heo, 2013). Further, the need to improve efficiency in public sector has seen governments around the world adopt integrated financial management systems (Charko, Adam and Ghee, 2010). In Kenya, the push for integrated public procurement systems stems from the need to mitigate the drawbacks of the traditional public management systems and improve efficiency in government service delivery (Wainaina, 2014).

The adoption of integrated financial management information system in Kenya has been championed as the best strategy in mitigating the ensuing effects of public procurement misappropriations that have dogged the public sector since independence (Kihara, 2009). In addition, integrating financial management systems increase ability to undertake control and monitoring of expenditure and receipts in Government departments, increase ability to access information on financial and operational performance, increase ability to access information on Government's cash position and information on economic performance; and increase ability to demonstrate accountability to donors and the public (Jobe, 2009).

### **1.1.1 Public Procurement**

Procurement is the process of acquiring goods or services and ensuring efficient running of an organization (Weele, 2010). World Bank (1995) defines public procurement as the acquisition of goods, services and works by a procuring entity using public funds. Procurement is also the acquisition of goods and services at the best possible total cost of ownership, in the right quantity and quality, at the right time, in the right place and from the right source for the direct benefit or use of corporations, or individuals, generally by contract (Breitman and Lucas, 1987).

Public procurement on the other hand refers to how public sector organisations spend taxpayers' money on goods, works and services (Karani, 2014). It is the principal means through which governments meet developmental needs such as the provision of physical infrastructure and the supply of essential medicines. Many governments use public procurement to support the development of domestic industries, overcome regional economic imbalances, and support minority or disadvantaged communities (Kihara, 2009). An important attribute of public procurement in developing countries is that a considerable part of it is financed by the so called development partners, as part of either bilateral or multilateral development assistance (Mokaya, 2013).

Public procurement often constitutes the largest domestic market in developing countries. Depending on how it is managed, the public procurement system can thus contribute to the economic development of these countries (Kihara, 2009). Mbae (2014) asserts that an efficient public procurement system is vital to the advancement of African countries and is a concrete expression of their national commitments to making the best possible use of public resources.

### **1.1.2 E-Procurement**

Knudsen, (2002) defines e-procurement as an aspect of procurement supported by various forms of electronic communication and takes up forms such as electronic data interchange, enterprise resource planning, e-sourcing, e-tendering, and e-informing, among others. It can also be defined as a collaborative procurement of goods, works and services using electronic methods at every stage (Kumar and Agrahari 2007).

The move to e-procurement that is supported by internet technologies has been gradual. During the introduction stages, e-procurement took up the form of electronic data interchange (EDI) whereby messages were sent using closed networks between organizations. The introduction of fast internet has further provided tools that assist in the entire process of procurement bringing in the issue of efficiency and transparency which have been identified as hindrances to the public procurement system (Odhiambo and Kamau 2003)

IFMIS can be seen as a form of e-procurement. E-procurement solutions are seen as a way to address many public sector procurement requirements. It has become apparent that the more the procurement process is supported by Internet technology, the easier it will become to develop and implement e-Procurement. One of key logical advantages of electronic transaction management is that it frees procurement staff for procurement evaluation and contract management roles. Furthermore, management information can be extracted from the electronic procurement system using standard reporting software. The transparent management information provided by electronic procurement also permits the monitoring of compliance with service level agreements and measurement of many other elements of supplier performance (Boudijilda and Pannetto, 2013).

### **1.1.3 Integrated Financial Management Information Systems**

The development of integrated financial management and information system (IFMIS) started in 1998 whilst deployment of the system to line ministries commenced in 2003. IFMS is an oracle based Enterprise Resource Planning (ERP) software and integrates all data and processes of an organization into unified system housed at centralized database which is accessed through a secure network (RoK, 2011).

According to Hendriks (2012), IFMIS is an information system that tracks financial events and summarizes financial information. It supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements. IFMIS also refers to the computerization of public financial management processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for the purpose of financial management, in the sphere of government operations (RoK, 2011; Wainaina, 2014).

The role of IFMIS is to connect, accumulate, process and then provide information to all parties in the budget system on a continuous basis. It is therefore imperative that the system should be

able to provide the required information timely and accurately, because if it does not it will not be used and cease to fulfill its central function as a system (Wainaina, 2014).

The introduction of integrated financial management system (IFMIS) was seen as a core driver to public financial reforms in the developing countries and that factors that can lead to successful implementation of IFMIS include clear commitment by the relevant authorities on financial objective reforms, ICT readiness, project phased implementation as well as adequate resources and human capacity (Chene ,2009). The goal of an integrated financial management system is to support the achievement of fiscal discipline, strategic and efficient allocation and use of funds, value for money and probity in the use of public funds (RoK, 2011). IFMIS assists management in ensuring accountability for the deployment and use of public resources and in improving the effectiveness and efficiency of public expenditure programmes. By tracking financial events through an automated financial system, management is able to exercise improved control over expenditure and to improve transparency and accountability in the budget cycle as a whole (Wainaina, 2014).

#### **1.1.4 Kenya National Government**

The Kenya National Government is authorized to act based on the legal constitution in ensuring the protection of the safety and wellbeing of the citizens. The government structure is split into two namely administrative and economic structures which are coordinated jointly (Mutui, 2014). The Government not only focuses on efficiency and effectiveness but also ensuring accountability and interactive access of information on public expenditure by the public and improvement to service delivery to internal customers (employees). To achieve this much attention is given towards the procurement practices and operations of the state corporations (GoK, 2005).

The Government is run by ministries of which there are 18 ministries which are headed by the cabinet secretaries (GoK, 2014). As a main function, the ministries are charged with the responsibility of formulating financial and economic policies. The ministries are responsible for developing and maintaining both the sound fiscal and monetary policies which facilitate socio-economic development in all the government sub sectors. Additionally the government ministries coordinate government departments in the preparation of the annual national budget. It is the

responsibility of each of the ministries to initiate and guide all departments to prepare their ministerial budgets (Mutui, 2014).

Public procurement is a major component of the ministries as it oversees how the operations are facilitated. The public procurement system in the ministries has been undergoing transformation consistent with the global trend since the mid-1990s (RoK, 2010). Initially the legal framework governing public procurement was very amorphous, providing conducive environment for the perpetration of various ill practices in public procurement including the endemic corruption that characterized the system. But with the creation of the Kenya e-Government strategy (2004) it has led to the establishment of Information Communication Technology Department across the Government Ministries and Departments which has resulted in the financial management system undergoing major transformations from manual systems such as ledger, vote book and cash management systems (Kanyugi, 2014).

The introduction of the Integrated Financial Management Information Systems (IFMIS) in public procurement is a noble idea to drive e-procurement as a reform measure. This if effectively implemented, will ensure a transparent, accountable manner and to its fullest with adequate relevant administrative structures and resources deployed to support the process (Owegi and Aligula, 2006). Though the government through the Ministry of Finance issued a directive that all state corporations adopt IFMIS in their procurements, the level of adoption of the IFMIS in the ministries is still low as most state corporations haven't fully implemented the system (RoK, 2011).

## **1.2 Research Problem**

Developing countries have invested heavily in information management systems in order to benefit from advances in information technology which enables firms or organization to redefine business processes and develop new business models (Heo, 2013). Further, the need to improve efficiency in public sector has seen governments around the world adopt integrated financial management systems (Charko et al, 2010). A fully functioning IFMIS can improve governance by providing real-time financial information and enhance transparency and accountability, reducing political discretion and acting as a deterrent to corruption and fraud (Diamond and Khemani, 1999).



Cobra (2010) carried out a comparative analysis of procurement methods used on competitive tendered office projects in Europe. Kwakezi et al., (2002) in their study on procurement processes and performance efficiency and effectiveness of the procurement function mainly in Uganda found out that for a public entity in a developing country to conduct procurement performance there are numerous challenges that are encountered. Ken (2006) carried a study on towards a pan London strategy: procurement performance measurement and found that public procurement was faced by number of challenges including inaccurate information, lack of link between procurement measures and corporate objectives.

In Kenya, Wainaina (2014) studied the effects of integrated financial management information system on financial performance of commercial state corporations in Kenya and found that respective IFMIS practices adopted by commercial state corporations had a significant impact on their financial performance. Muli (2014) studied quality improvement practices and business performance among commercial state corporations in the Ministry of Health, Kenya and found that the degree of commitment and support that management takes in implementing a total quality environment is critical to the success of quality improvement practices implementation. Musee (2011) in his study found out that; effective use of IFMIS is affected largely by sabotage and resistance. The study also established that management support is lacking and top management does not inspire the user. The capacity and technical knowhow was found to be low due to lack of training and the hurried implementation of the system.

While the reviewed researchers have studied Integrated Financial Information Management Systems in Kenyan context, the challenges in implementation and the procurement issues facing public sector in Kenya and globally, it is however necessary to investigate its implementation and impact on public procurement performance. It is against this background that the current study established the implementation and impact of IFMIS on public procurement performance at Kenya's National government level. The study sought to answer the question; how has the implementation of IFMIS affected public procurement performance at the National level in Kenya?

## **1.3 Research Objectives**

### **1.3.1 General Objectives**

The general objective of this study was to establish the implementation and impact of integrated financial management information system on procurement performance at the national government of Kenya.

### **1.3.2 Specific Objectives**

- i. To establish IFMIS implementation process at national government.
- ii. To establish the factors affecting IFMIS implementation in the national government.
- iii. To establish the effects of IFMIS implementation on procurement performance in the national government.

## **1.4 Value of the Study**

To the government, the study highlighted the challenges facing implementation of IFMIS and the factors responsible for successful implementation of IFMIS. With this information, the government will be able to develop a strategy to implement IFMIS to ensure implementation is successful. Further, by this study showing the impact of IFMIS on procurement performance, the government and policy formulators will be able to plan, design and get empirical evidence on the need of developing sound enterprise resource management system that will align itself to the overall economic strategy and lead to efficient service delivery.

To the national government, the study highlighted the challenges members of the staff are going through while implementing IFMIS. This information will help them in taking corrective actions aimed at maximizing the value that the ministry can get by having fully implemented information system. They will also be able to determine the impact of adopting IFMIS on their procurement performance. The study will address output indicators that can be used in measuring and evaluating the quality, efficiency, and effectiveness of procurement services delivery at national government.

To the general public, this study is equally beneficial since private enterprises for example are also interested in building sound procurement management system. The improved service delivery because of adoption of this study findings will of huge benefits the general public and more so to the national government suppliers.

The study also adds to the existing literature by bridging the gap on the implementation and impact of IFMIS on performance of public procurement performance. The findings of the study are beneficial to future researchers since it highlighted areas requiring further research.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This section reviews the existing theoretical and empirical literature on the impact of integrated financial management information system on public procurement performance. The chapter is organized into IFMIS implementation concept, challenges, success factors and benefits of IFMIS implementation on procurement function and the theoretical concept. This is followed by the empirical literature with emphasis on the objectives of the study and findings, a summary of the literatures, and finalizes with the conceptual framework.

#### 2.2 IFMIS Implementation

E-procurement creates a framework in which the government agencies such as buyers can be able to procure goods/services by browsing catalogues advertised by suppliers hence a one-stop Portal for public sector procurement (Chene and Hodess, 2009). The scope and functionality of an IFMIS however can vary from a basic general ledger accounting application to a comprehensive system covering budgeting, accounts receivable or payable, cash management, commitment control, debt, assets and liability management, procurement and purchasing, revenue management, human resource management and payroll (Wainana, 2014). Its role is to connect, accumulate, process and then provide information to all parties in the budget system on a continuous basis. The features and requirements of the supply chain must be compatible to the available technology that is the software component architecture for the system to provide valid output (Giner, *et al*, 2011).

E-sourcing is a functionality of IFMIS that entails using the internet technology to identify new suppliers for a specific category of purchasing requirements. E-tendering on the other hand is sending requests for information and prices to suppliers and receiving the responses of suppliers using Internet technology. While e-reverse auctioning is buying goods and services from a number of known or unknown suppliers using the internet technology. Whereas e-informing refers to gathering and distributing purchasing information both from and to internal and external parties using internet technology (Giner, *et al*, 2011).

The internal users are however very critical if the IFMIS was to succeed (Giner et al, 2011). This is attributed to the fact that the internal users may not be willing to adopt the new system due to the fear of the unknown or due to being so attached to using the old manual system thus changing would seem difficult. Thus they pose some resistance to the IFMIS implementation and this highly slows down the implementation process and it doesn't attain its full potential in influencing procurement performance.

### **2.2.1 The Relationship between IFMIS Implementation and Public Procurement Performance**

Over the last five years, the Kenyan government has initiated some capital investment towards set up and installation of ICT infrastructure. Funding for these investments is achieved through partnerships between the government and development partners. The foreign funding component constitutes the largest percentage of this investment in terms of technology. The government contribution is usually in the form of technical and support staff and facilities including buildings (RoK, 2011).

Adopting an efficient public procurement system improves procurement performance, the performance of the procuring entity and at the national level: assists policy makers to understand how various policy goals interact and how policy impacts on the overall performance of the procurement system; enables governments and parliaments to improve the quality of decision-making and to take constructive and long-term actions that will most effectively develop their public procurement systems; create stronger incentives on governments to improve their public procurement systems, help them to set priorities for reform actions in the area of public procurement and to monitor progress against the objectives set; and provide valuable information for the assessment of the public expenditure system (Hardy and Williams, 2011).

The introduction of IFMIS has become a critical component of financial reforms to promote efficiency, security of data management and comprehensive financial reporting. IFMIS provide an integrated computerized financial package to enhance the effectiveness and transparency of public resource management by computerizing the budget management and accounting system for a government. The central aim behind performance information systems is that systematic and continuous evaluation of organizational performance should be used to improve future performance (Wainaina, 2014).

### **2.2.2 Challenges Facing Effective IFMIS Implementation**

Despite there been introduction and measures put in place to ensure the success of IFMIS, there are various setbacks that hinder the achievement of its key objectives, these include; lack of capacity, lack of commitment to change, resistance and technical challenges. Capacity refers to the required staff in operating the IFMIS systems. The staff ought to not only be knowledgeable of the systems but also to have adequate experience. The staff oversee how the IFMIS are conducted and managed thus if they are conversant of the systems and of IT knowledge the strategies are prone to succeed.

In addition lack of capacity as noted by Hendriks (2012) is regarded as one of the major factors impeding successful implementation of IFMIS especially in the public sector. This can be attributed to the fact that the salary payment at the public sector may not be 'appealing' as compared to the private sector hence more skilled personnel in the private sector (Chene, 2009). More over lack of proper financial budget allocation to the human resource leads to inadequate capacity. Case studies in countries like Uganda show that lack of staff has been blamed for the slow implementation of IFMIS (Diamond and Khemani 2006).

IFMIS implementation is a complex, diverse, risky and highly procedural change in systems and requires willingness to change so as to succeed (Chene, 2009). It requires both the management and the staff to be willing and committed to change in technology, skills even responsibilities. Considering its complexity the commitment will greatly boost how the IFMIS will be adapted into the organization. The lack of commitment to change may be attributed to factors such as be so used to the old manual systems, fear of risks that may occur in implementing the IFMIS and also fear of not knowing how to operate the new systems (Hendriks, 2012).

Additionally, not all implementation strategies are accepted by the staff as expected by the management and this may be termed as a form of resistance. Most people resist to adapt a certain new strategy such as IFMIS due to the fear of venturing to the unknown or not wanting to leave the past behind. Resistance comprises of two main categories; active and passive resistance. Passive resistance entails accepting the strategy implementation verbally but not following the proposed plan either through ignorance or following what they think to them is right. Active resistance on the other hand refers to whereby the employees reject the intended strategy verbally

through critic for example by ridiculing or expressing the shortcomings of the intended plan (Chene, 2009).

### **2.2.3 Support Factors for Effective IFMIS Implementation**

There are various factors which influence the IFMIS to be effectively implemented, they include but not limited to commitment by the top management, human resource, training and capacity building and organization culture. The implementation of IFMIS is a long process which requires a comprehensive guideline by the management. The top management highly influence the implementation of many strategies IFMIS included as evidenced by various studies (Mutui, 2014).

Commitment of the top management will also bring out a positive signal to the affected organizational members leading them to perform their level best (Rapa and Kauffman, 2005). Though Chene (2009) argues that what matters most is the commitment of the mid-level management, entire the management should effectively assess the current institutional conditions, allocate the appropriate budget for the IFMIS implementation and advise according to the other staff for the IFMIS to be fully implemented (Luft and Shields, 2003; Marginson, 2002).

The human resource describes the skill power of the implementation of the IFMIS personnel. It entails how staff are knowledgeable about IFMIS; how it's operated, shortcomings that may arise and how to fully maximise the output of the IFMIS. The human resource comprises of the entire organizational staff from the management to the employees. For effective integration of IFMIS, the staff ought to be skilled in IT and how the systems operations are conducted. This may be enhanced through hiring and training of the relevant personnel (Hendriks, 2012).

Capacity building and training entails equipping the relevant personnel with the required skills to operate the IFMIS. This involves enabling the employees have sufficient knowledge to not only be able to use the IFMIS but to also to maximise the output and efficiency of the information systems (Mutui, 2014). The IFMIS are very different from the manual methods of information systems thus capacity building is a very crucial aspect in effective implementation of the IFMIS. Skilled employees have been evidenced to adapt to the change in information systems faster as compared to the less skilled ones.

The process should be scoped during the early implementation stages covering the recruiting needs, the training criteria and the targeted key audience (Balogun, 2003). The training also ought to target both the junior and senior employees so as to level the effectiveness of the strategies. As supported by Mutui (2014) capacity building and training will highly enhance the effectiveness of IFMIS especially in the developing world where not everyone is conversant with IT.

### **2.3 Procurement Performance**

Performance provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, identifies areas of strengths and weaknesses and decides on future initiatives with the goal of how to initiate performance improvements (Deasy, Gareth, Scott, and Ringwald, 2014). The primary goal of performance evaluation is to increase organizational effectiveness and efficiency to improve the ability of the organization to deliver goods and /or services (Sababu, 2001).

Procurement performance evaluation may be defined as the quantitative or the qualitative assessment over a given time towards the achievement of corporate and operational goals and objectives relating to purchasing economies, efficiency and effectiveness. Quantitative objectives are measurable using such measures as number of orders placed, reduction in lead times, price savings and reduced administrative costs and will tend to be used when purchasing is regarded mainly as a clerical and transactional activity (Knusden, 1999). Lysons et al, (2006) defines purchasing procurement performance evaluation as the quantitative or qualitative assessment over a period of time towards the achievement of corporate or operational goals and objectives relating to purchasing economies, efficiency and effectiveness. Procurement performance is considered to be the result of two elements: purchasing effectiveness and purchasing efficiency (Chene, and Hodess, 2009). This means that procurement performance is not an end in itself but a means to effective and efficient control and monitoring of the purchasing function (Deasy, et al, 2014).

There are a number of ways used to determine the performance of procurement performance some of which include procurement time, cost of procurement and the accuracy with which procurement function is carried out. Christopher (1992) notes that to evaluate performance based on time, one would seek to know the timing of suppliers' actual delivery performance against



promised, time taken to process requisitions and time taken up with remedial action while cost evaluation will determine the amount saved by the company in procurement function. Major setbacks in public procurement include poor procurement planning and management of the procurement process, needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff responsible for procurement (Mbae, 2014).

### **2.3.1 Benefits of IFMIS Implementation on Procurement Performance**

IFMIS practices if effectively implemented may result in a number of benefits in the public procurement performance such as enhanced transparency and compliance, increased performance and quality, and economic development (Mutui, 2014). The improved transparency of the public sector operation will itself will lead to improved efficiency of financial controls and other expenditure management procedures, rapid expedition of many transactions at once, rapid compilation of data from many sources for improved financial analysis and decision making and improved consistency of information and improved checks and balances.

This shows that the IFMIS will greatly boost transactions thus improving the procurement performance of the state corporation. Hence it will work as a catalyst for economy's growth and development as it will ensure that the government and its departments manage the public resources efficiently and in an efficient and a transparent way. Similarly the Ministry of Finance (GoK, 2014) adds on that IFMIS highly improves the performance of the public sector in that it; enables efficient resource allocation mechanisms, Improves management information for decision making, establishes effective links between key players in accounting and financial management and improves financial controls by availing reliable and timely financial information.

IFMIS also improves accounting, recording and reporting through timely, accurate financial data provision, accelerates the pace / scope of economic growth and generally enhances development partners' confidence. This shows that IFMIS adoption is not only of benefit to the procurement performance but also to the economic growth. Thus the need to adopt e-procurement cannot be underscored given the fact that public sector procurement is large and complex, accounting for between twenty and thirty percent of gross domestic product of which the Health Sector is of no exception (Thai and Grimm, 2000).

## **2.4 Theories of Information Systems Implementation**

The following three theories help to guide the research under study.

### **2.4.1 Technology Acceptance Model**

The Technology Acceptance Model (TAM) is an information systems theory initially developed by Davis, (1989) and Warshaw, (1992) that models how users come to accept and use technology advancement. The model focuses on how ICT is adopted and used giving much emphasis on determinants of user acceptance of a wide range of information technologies. TAM comprises of two major theoretical frameworks; the perceived usefulness (PU) and Perceived Ease of Use (PEOU).

PU as defined by Davis, (1989) is the degree to which a person believes that using a particular system will enhance their job performance whereas Perceived Ease of Use refers to the degree of easiness an individual will have in using a particular system. PU has been established to influence both satisfaction and attitude towards technology (Hi) whereas PEOU has been found to influence both PU and adoption intentions (Davis, 1989). These two influence how change in information systems will be accepted by the relevant personnel.

Though the theoretical model has been postulated to have various shortcomings such as not considering the organizational setting and moderating effects (Davis, 1989), this study adopts it in determining how IFMIS impacts on public procurement performance at the National government. This due to its implication to the study that the effect, usefulness and ease of use of the IFMIS will highly determine how the staff adopt the systems as well the performance of the procurement practices.

### **2.4.2 Contingency Theory**

Contingency theory is a theory that was put across by Woodward, (1985) that tries to formulate a broad generalization about the formal structures that are associated with various technologies. The Contingency Theory as described by Hersey and Blanchard (1969) holds that there is no definite strategy management which guarantees success of the strategy put in place. Management and firms are considered 'open systems' hence are prone to changes requiring different approaches to handle and solve issues. Also the Contingency Theory holds that for effective implementation practices, there has to be proper coordination of the associated variables.

The contingency theory has been a key tool in the recent past in identification, analysis and the evaluation of the factors that affect the design of information systems. The theory holds that, to operate the systems it will require having the relevant and well-coordinated skills. Daft (1998) argues that each information system vary based on the firm specification and a system that may work in a particular organization may not necessarily work in another.

As such the Contingency Theory is built on three major aspects; financial information, auditing information and managerial information. Proper utilization of information from these three key sectors is what is theorized to bring about the success of the IFMIS (Mungai, 2012). Thus this theory is relevant to the study in that it postulates that not one thing is independent on itself as they depend on other elements so as to be effective. Hence for IFMIS to have a positive impact on procurement performance, the organization ought to have appropriate strategic measures put in place in the procurement department.

### **2.4.3 Meta Theory**

Meta Theory was put in place to enhance understanding of information systems within the sociotechnical systems. The theory as described by Gorry and Scott-Morton, (1971), may be integrated to explain many disciplines but this study's main focus will be on how it is related to information systems management. Meta theory is the integration and synthesis technical orientations, cognitive as well as the overarching model related to integrated information systems and explain how they operate (Mungai, 2012). The theory holds that contingency factors, organizational factors and technological factors influence greatly on the performance of various tasks.

The theory has thus helped in the understanding of limitations involved in IT such as failure to recognize the task to which the IT is being applied and the adaptive measures (Wainaina, 2014). The theory's proposition to the study is that in order for the IFMIS tasks to have an impact on the task performance of procurements, the contingency factors, organizational factors and technological factor ought to be well coordinated. In addition it helps in addressing the technical challenges that may arise in adoption of new information systems.

## **2.5 Empirical Literature**

Various studies having been conducted both internationally and locally on IFMIS and procurement performance. Nyabuto (2009) undertook a Survey of the Extent of Implementation of Integrated Financial Management Information System as a tool for sustainable financial management in government. The study revealed that there was resistance in the Ministries for the use of IFMIS. Kakwezi and Nyeko (2010) conducted a study on procurement processes and performance: Efficiency and effectiveness of the procurement function in Uganda and found out that other than financial measures, non-financial measures also contribute significantly in the procurement process and performance. Kimwele, (2011) conducted a study on the factors that have hampered effective implementation of the Integrated Financial Management Information System in Kenya public sector.

Spriano (2013) carried out a study on the successes and failures of e-Government projects in Developing Countries: a case study of Zambia. The results of the study indicted a rating score of 55.1 based on Heeks 100 point scale implying a mighty fail totally or partially. In addition the awareness of the e-government projects was found to be inadequate. Mbae, (2014) investigated the impact of public procurement law on the performance of Machakos county government. The study established that political forces, unethical practices, lack of transparency and accountability and dishonesty among procurement officers have affected procurement processes.

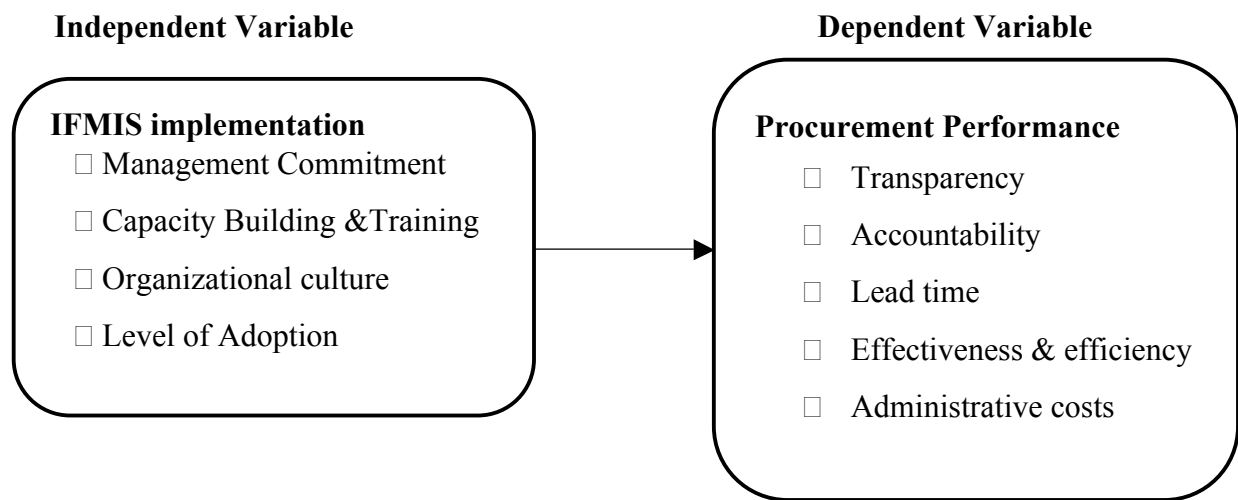
Mauki, (2014) factors influencing Implementation of Public Procurement and Disposal Act in Kenyan Judiciary from regions perspective. The findings revealed that accountability, ICT adoption, stakeholders' ethics and staff competence influenced implementation of Public Procurement and disposal Act at Kenyan Judiciary. Karani, (2014) investigated procurement methods and procurement performance amongst state corporations under the National Treasury of Kenya and found that procurements methods affected procurement performance of state corporations. Nasra, (2014) conducted a study on the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya and found that flexibility ensured procurement performance to a great extent. Mutui, (2014) conducted a study on the effects of the implementation of integrated financial management information system on procurement performance of the Kenyan Government Ministries. The study however found out that there had been a moderate extent of IFMIS implementation among the government ministries in Kenya.

## 2.6 Summary of Literature and Research Gaps

The effectiveness of procurement practice is very crucial in attainment of the set organization's targets. This is beneficial to the organization given that it can help reduce cost and help in bringing efficiency in the organization's operations hence contributing to the organization's success. Comparably advancement in technology and improved financial information systems have been hypothesized by various scholars to impact positively on the task performance. From the reviewed literature it's evident that many studies have been done on IFMIS and procurement performance. However the exact linkage between the two variables isn't established by the literature.

## 2.7 Conceptual Framework

The conceptual framework represents a structure of concepts which are put together so as to show the relationship between the research variables (Mugenda and Mugenda, 2003). The conceptual framework in figure 2.1 below shows that there are various determinants of IFMIS implementation and they include; commitment by top management, training and capacity building, organization culture and level of adoption of IFMIS. These factors lead to the success of IFMIS implementation and directly influence the procurement performance.



**Figure 2.1** The Conceptual Framework

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter outlines the method that was adopted by the study in obtaining information on implementation of IFMIS and procurement performance at Kenya's National government. The chapter is structured into; research design, target population, sampling procedure, data collection method and data analysis techniques.

#### **3.2 Research Design**

This study adopted a cross-sectional survey approach in conducting the study where all the ministries at the national government were studied at their National level points. This design enabled gathering of more information while enabling comparison and contrast among the different ministries under the national government in respect to IFMIS implementation and procurement performance.

#### **3.3 Population**

The target population represents a sum of elements out of the whole group of which the researcher is interested in the study (Mugenda and Mugenda, 2003). The target population for the study comprised of the eighteen (18) ministries falling under the national government. The target respondents were all procurement managers located at the ministry headquarters. The list of study population is illustrated in appendix II.

A census approach was adopted by the study so as to cover all the 18 ministries under the National government of Kenya. The census approach ensured obtaining of substantial and credible information from a small population thus the most appropriate for the study (Mugenda and Mugenda, 2003).

### **3.5 Data Collection**

The study used purely primary data in collecting information which was collected using questionnaires and face to face interviews. Questionnaires were adopted as they are time saving and enable collection of a wide range of data. The questionnaires were administered to the procurement managers at the ministries' headquarters. A drop and pick later strategy of a period of one week was used to administer the questionnaires as this would give the respondents an ample time to fill them.

The questionnaires were based on a five-point Likert scale and sub divided into sections in line with the study's objectives. Section A of the questionnaire was on IFMIS implementation process; Section B sought to obtain information on the factors affecting IFMIS implementation; while section C of the questionnaire sought to obtain information concerning the impact of IFMIS Implementation on procurement performance.

### **3.6 Data Analysis**

Data analysis represents the process of obtaining information from the data collected and presenting them. The completed questionnaires were edited for completeness and consistency. This ensured the data collected was valid and reliable. The qualitative data from the open ended questions was analyzed using content analysis because the focus was on interpretation of the results rather than quantification. While quantitative data from the close ended questions was interpreted by use of statistical package for social sciences (SPSS) and was analyzed through the use of descriptive statistics which included frequencies, percentages, standard deviation and arithmetic mean. The analysed data was then presented in graphs, charts and tables.

So as to show the relationship between implementation of IFMIS and procurement performance at national government, the study conducted a multiple regression analysis. The regression model took the below format:  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$ . Where: Y is the public procurement performance as coded from the questionnaire.  $\alpha$  is a constant.  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  are coded variables representing; management commitment, capacity and training, resistance/acceptance and level of IFMIS adoption.  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$  are the beta coefficients.  $\epsilon$  is the error term. Correlation analysis was used to determine the relationship between procurement performance and IFMIS implementation elements to explore possible strengths and direction of relationships.

The correlation coefficient is a measure of linear association between two variables. In order to test the significance of the model in measuring the relationship between implementation of IFMIS and procurement performance in the national government in Kenya, significance was tested using the analysis of the variance (ANOVA), t-tests, z-tests and f-tests at 95% confidence.



## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION**

#### **4.1 Introduction**

This chapter presents the analysis of data obtained on the effects of the implementation of integrated financial management information system on procurement performance at national government of Kenya. It presents analysis and findings of the study as set out in the research methodology. The data obtained was analyzed using SPSS to determine the effect of the implementation of integrated financial management information system on procurement performance of the public procurement sector of Kenya.

#### **4.2 Demographic Information**

The demographic characteristics of the respondents that were tested included respondents' working duration in the ministry and whether the respective ministries had participated in integrated financial management.

##### **4.2.1 Respondents' Duration in the Ministry**

The study sought to determine the duration the respondents had worked for their respective ministries. The findings are presented in figure 4.1 below. Majority of the respondents (39%) had worked for duration of 7-9 years. 28% had worked for a period of 4-6 years, 17% for 10-12 years, 11% for over 12 years while 6% had worked for a period of less than 3 years. This shows that the respondents had worked for a considerable period of time in the ministries and were thus conversant of the available procurement practices.

## **Figure 4.1 Respondents' Duration in the Ministry**

*Source; Researcher 2015*

### **4.2.2 Level of Adoption of IFMIS in the ministry**

This section sought to establish the extent to which IFMIS was adopted in the ministries. The findings show that all the 18 ministries (100%) had implemented IFMIS. This shows IFMIS has been incorporated by the ministries in conducting their procurement practices. This can be attributed to the fact that the government of Kenya issued a directive of ensuring that IFMIS was implemented in all public sectors (RoK, 2011). The ministries were thus able to conduct e-procurements efficiently.

### **4.3 IFMIS Implementation in the Ministry**

#### **4.3.1 Extent to which the Ministries have Implemented IFMIS**

The study sought to determine the extent to which the Government Ministries in Kenya had implemented IFMIS in their procurements. In this regard the respondents were required to indicate the extent of implementation of IFMIS in their ministries. The findings are as shown by table 4.1 below. The findings indicated that 39% of the ministries had implemented IFMIS to a good extent, 28% very good extent, 17% poor extent, 11% excellent extent and 6% very poor extent. From the data, it is clear that there has been a moderate level of implementation of IFMIS among the government ministries in Kenya.

**Table 4.1: Extent of Implementation of IFMIS in the Government Ministries**

<b>Extent</b>	<b>Frequency</b>	<b>Percent</b>
Excellent	2	11 %
Very good	5	28 %
Good	7	38%
Poor	3	16 %
Very Poor	1	6 %
<b>Total</b>	<b>18</b>	<b>100.0</b>

*Source; Researcher 2015*

The respondents were further required to rate the extent to which various e-procurement practices had been adopted in the government ministries. A scale of 1 to 5 was provided where 1 was no extent, 2 was to little extent, 3 was to moderate extent, 4 was to a large extent and 5 is to a very large extent. The findings obtained are presented in table 4.2.

**Table 4.2: E-procurement practices**

<b>E-procurement Practice</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Rank</b>
e-Invoicing-(delivery of bills and related information using electronic communications)	4.2235	1.0984	1
e-Requisitioning (sending requests of requirements to the AIE holders for approval)	3.8123	0.6356	2
e-Informing- (gathering and distributing purchasing information)both from and to internal and external parties using Internet technology)	3.1212	1.4374	3
e-Sourcing- (identifying new suppliers using Internet technology) after requisition	2.2011	0.4645	4
e-Tendering- (sending requests for information and prices to suppliers and receiving the responses of suppliers using Internet technology)	2.0888	0.8356	5
e-Catalogue- (list of goods or services on sale with their description and prices published as an electronic document)	1.6565	0.9923	6
e-Reverse Auction- (sellers bid for the prices at which they are willing to sell their goods and services)	0.9212	0.9987	7
e-Auction- (sell or bid for products or services via the Internet)	0.7321	1.1478	8
e-Market Sites- (use virtual marketplace based on the internet where numerous companies execute economic transactions)	0.6891	0.012	9
<b>Overall</b>	<b>2.5778</b>	<b>0.9565</b>	

*Source; Researcher 2015*

E-Invoicing (delivery of bills and related information using electronic communications) was the most applied tool with a mean of 4.2235 and standard deviation of 1.0984. E- Requisitioning (mean of 3.8123 and standard deviation of 0.6356), e-informing (mean of 3.1212 and standard deviation 1.4374), e-Sourcing (mean of 2.2011 and standard deviation 0.4645), e-tendering- (mean of 2.0888 and standard deviation of 0.8356), e-catalogue- (mean of 1.6565 and standard deviation of 0.9923), e-reverse auction (mean of 0.9212 and standard deviation of 0.9987). E-auction had a mean of 0.7321 and standard deviation of 1.1478. E-market sites (use virtual marketplace based on the internet where numerous companies execute economic transactions) were found to be least adopted practice used e-procurement practice with a mean of 0.6891 and standard deviation of 0.012.

Overall, the e-procurement practices were established to have been adopted to a moderate extent having a mean of 2.5778. This indicates low adoption of e-procurement but with the government commitment to adopt e-procurement as a way to address many public sector procurement challenges, more e-procurement reforms. The findings can be compared with those of Kamotho (2014) who found that most state corporations are fast adopting e-procurement to enhance their procurement performance. However, the success of the adoption is yet to be achieved to a big extent.

#### **4.3.2 Resistance and Acceptance of IFMIS**

The study sought to establish the extent to which IFMIS was accepted and resisted in the ministries. The respondents were therefore required to rate the statements on resistance and acceptance of IFMIS using a scale of 1-5 where, 1 was strong disagree, 2 was disagree, 3 was neutral, 4 was agree and 5 was strongly agree. The findings obtained are presented in table 4.3 below.

On whether the system was resisted by most of the staff the respondents agreed with a mean of 4.2145. Lack of knowledge on how to use the system was established to be the major reason for this resistance as it had a mean of 4.1245. Other reasons were also established onto why IFMIS was resisted by the staff such as; the manual system was preferred to IFMIS with a mean of 3.9987 and the fear of losing out control and jobs as a result of IFMIS implementation with a mean of 2.3523.

**Table 4.3: Resistance and Acceptance of the IFMIS**

<b>Statement</b>	<b>Mean</b>	<b>Standard Deviation</b>
Most of the staff prefers using IFMIS system to the manual system?	3.9987	1.2434
IFMIS has been accepted as a suitable means for procurements?	3.1233	0.8142
IFMIS system is resisted by majority of the staff in the Ministry	4.2145	1.9345
Most employees resist IFMIS for fear of losing out control and jobs	2.3523	0.4556
The system exposes corrupt officials that's why it is resisted	1.9923	0.6674
The system is resisted due lack of knowledge on how to use it.	4.1245	0.8867
The system installation stage ignored staff involvement	3.2421	1.2621

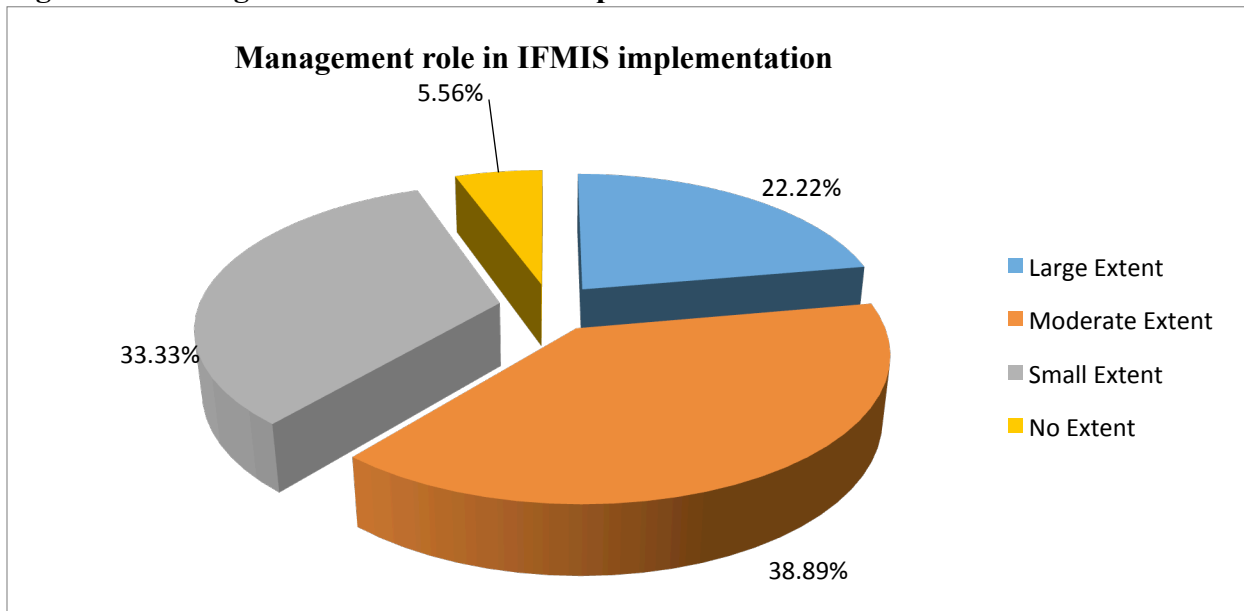
*Source; Researcher 2015*

The respondents were neutral on whether IFMIS had been accepted as a means of e-procurement and also whether the system installation ignored staff involvement with means of 3.1233 and 3.242. The respondents however disagreed that IFMIS was resisted due to it exposing corrupt officials. The respondents also indicated that the challenges had an influence on how IFMIS was implemented in the ministries with 50% indicating a moderate extent, 33% a very large extent whereas 17% felt it had not influence at all. This shows that the resistance and minimal acceptance among the staff towards IFMIS highly impede the successful adoption of IFMIS in the ministries.

#### **4.3.3 The Role of Management in IFMIS Implementation**

The study also sought to establish whether the management played a role in enhancing IFMIS implementation. The results are shown in figure 4.2. 39% of the respondents indicated that the influence was to a moderate extent, 33% indicated that it was to a small extent, 22% indicated the management role was to a large extent whereas 6% indicated that management had role in IFMIS implementation to no extent. This implies that the management did impact onto how IFMIS was implemented in the ministries. Therefore for IFMIS to be well implemented in the ministries, the management ought to formulate policies and oversee its implementation process.

**Figure 4.2 Management’s role in IFMIS implementation**



*Source; Researcher 2015*

#### **4.4 Factors influencing successful implementation of IFMIS**

This section sought to determine the factors which influence how IFMIS was implemented by the ministries. The respondents were required to rate the factors using a scale of 1-5 where, 1 was strongly disagree 2 was disagree, 3 was neutral, 4 was agree and 5 was strongly agree. The results obtained are shown in table 4.4 below.

**Table 4.4: Factors influencing successful implementation of IFMIS**

<b>Statement</b>	<b>Mean</b>	<b>Standard Deviation</b>
Implementing IFMIS requires that many government structures start working with available common tools	3.5343	0.3332
There is capacity building and training need to be which enhance proficiency of the staff in IFMIS	2.3252	1.3343
There is positive political influence which influence how IFMIS are implemented	4.4343	1.8875
There is positive influence of other stakeholders on IFMIS implementation	3.6347	0.2212
Technicality of the goods being sourced highly influence IFMIS operations	3.4334	0.4445
There is proper records management skills of the staff	4.5346	0.6525
Availability of high proficiency in IT applications	4.2123	0.7787
The available contracting framework is well defined	3.5233	0.8912

The management is committed towards ensuring proper implementation of IFMIS	2.9978	0.9993
The staff have positive attitude towards IFMIS implementation.	3.0134	1.0923

*Source; Researcher 2015*

Majority of the respondents agreed that there were various factors which impede IFMIS implementation in the ministries such as; there being proper records management skills of the staff with a mean of 4.5346, positive political influence which influence how IFMIS is implemented with a mean of 4.4343 and availability of high proficiency in IT applications with a mean of 4.2123. The respondents however remained neutral on there being a positive influence of other stakeholders on IFMIS implementation, implementation of IFMIS requiring that many government structures start working with available common tools, the available contracting framework being well defined, the technicality of the goods being sourced highly influencing the IFMIS operations and that the staff have positive attitude towards IFMIS implementation with means of 3.6347, 3.5343, 3.5233, 3.4334 and 3.0134 respectively.

The respondents disagreed on the existence of capacity building and training (mean of 2.3252) and the management being committed towards ensuring proper implementation of IFMIS (mean of 2.9978). Other factors also established to be influencing IFMIS other than the ones named above included IFMIS projects had slowed because the basic system functionality and resources had not been clearly specified from the onset of the intervention and failure to undertake parallel reforms in resource mobilization required by IFMIS is one of the reasons that often impede successful implementation. On a general aspect, IFMIS was attributed to improve the procurement performance in the ministries through improved efficiency and accountability.

#### **4.5 Level of Procurement Performance**

The study aimed at establishing the level of procurement performance in the ministries. To achieve this, the respondents were required to rate various procurement performance statements using a scale of 1-5 where; 1 was very small extent, 2 was small extent, 3 was moderate extent, 4 was large extent and 5 was to a very large extent. The findings are presented in table 4.5 below.

**Table 4.4 Level of Procurement Performance**

<b>Statement</b>	<b>Mean</b>	<b>Standard Deviation</b>
There is high supplier performance in that the suppliers deliver the right goods at the right time	4.3512	0.9982
There is no delays in procurement of products thus reduced procurement cycle	4.1257	0.7787
The firms technology satisfies its procurement processes and leads to customer satisfaction	3.1235	0.5562
The procurement processes are transparent and open	3.9948	1.9983
There is a high level of procurement accountability	3.0012	1.6678
The procurements conducted are efficient and effective	4.3255	1.2223
The procurements are of increased Quality	3.5634	0.7763
Better procurement hence enhanced resource utilization	3.2211	0.6652
Cost savings in the corporations	2.9988	1.8782
<b>Overall</b>	<b>3.6339</b>	<b>1.1712</b>

*Source; Researcher 2015*

To a large extent, due to adoption of IFMIS, there was higher supplier performance (mean of and standard deviation of 0.7787);there were no delays in procurement (mean of 4.1257 and standard deviation of 0.9982), procurements had become efficient and effective(mean of 4.3255 and standard deviation of 1.2223), transparency in procurement had improved(mean 3.9948 and 1.9983), quality of procurements had improved (mean of 3.5634 and standard deviation of 0.7763).

To a moderate extent, respondents indicated that the firm's technology satisfied its procurement processes and lead to customer satisfaction (mean of 3.1235 and standard deviation of 0.5562), IFMIS had improved procurement accountability (mean of 3.0012 and standard deviation of 1.6678), lead to better procurement hence enhanced resource utilization (mean of 3.2211 and standard deviation of 0.6652). Cost savings in the corporations had the lowest mean of 2.9988 implying a small extent of performance. Overall procurement performance was established to have a mean of 3.633 indicating that procurement performance was moderate in the ministries.

The respondents also agreed that procurement procedures were open to public scrutiny and those procurement officers are open to audit with frequencies of 15 and 18 respectively. They further stated that this played a role in ensuring accountability and efficient procurements in the ministries. The respondents were further required to indicate their response on the effect IFMIS has on procurement performance at the National Government. The findings show that 83% agree



that IFMIS had impacted the procurement performance at National Government while 17% disagreed. This affirmed that IFMIS does indeed affect the procurement performance.

#### 4.6 Descriptive Statistics

Descriptive statistics were used to evaluate the trend of the variables over the study period. The descriptive statistics showed that procurement performance had a minimum score of 1.6, maximum of 5 and mean of 3.5722. Management commitment had minimum of 2.63, maximum of 4.38 and mean of 3.7239. Capacity and training had a minimum of 1.6, maximum of 5 and mean of 3.5667. Resistance had a minimum of 2.14, maximum of 4.4 and mean of 3.4122. The level of IFMIS adoption had a minimum of 1, maximum of 5 and mean of 3.1667.

**Table 4.5: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Procurement Performance	18	1.6	5	3.5722	0.9002
Management Commitment	18	2.63	4.38	3.7239	0.56327
Capacity and training	18	1.6	5	3.5667	1.00411
Resistance/acceptance	18	2.14	4.4	3.4122	0.79494
Level of IFMIS adoption	18	1	5	3.1667	0.98518
Valid N (list wise)	18				

*Source; Researcher 2015*

#### 4.7 Correlation Analysis

Correlation analysis was used to determine the nature of the relationship between study variables. As shown in table 4.6 below, management commitment was positively correlated to procurement performance with coefficient of correlation of 0.640 and a p value of 0.0004. This implies that the nature of commitment of the management highly influences procurement performance. The effect is significant at 95% and 99% confidence level since the p-value is less than 0.05 and 0.01 respectively. Capacity and training, and the resistance and acceptance of IFMIS adoption both have positive significant effect on procurement performance with a coefficient of correlations of 0.592 and 0.726 which have p-values of less than 0.05. The level of IFMIS adoption has a coefficient of correlation of 0.726 and p-value of 0.001. This means that the level of IFMIS adoption alone has no significant effect on procurement performance at 95% confidence level since the p-value of 0.138 is greater than 0.05.

**Table 4.6 Correlation Analysis**

		Procurement Performance	Management Commitment	Capacity and training	Resistance /acceptance	Level of IFMIS adoption
Procurement Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Management Commitment	Pearson Correlation	0.640**	1			
	Sig. (2-tailed)	0.004				
Capacity and training	Pearson Correlation	0.592**	0.611**	1		
	Sig. (2-tailed)	0.01	0.007			
Resistance/acceptance	Pearson Correlation	0.726**	0.723**	0.669**	1	
	Sig. (2-tailed)	0.001	0.001	0.002		
Level of IFMIS adoption	Pearson Correlation	0.364	0.166	0.327	0.27	1
	Sig. (2-tailed)	0.138	0.51	0.185	0.279	
	N	18	18	18	18	18

\*\* . Correlation is significant at the 0.01 and 0.05 level (2-tailed).

*Source; Researcher 2015*

#### **4.8 Relationship between implementation of IFMIS and Procurement Performance**

A multiple regression model was used so as to determine the relationship between IFMIS and procurement performance. The resulting regression coefficients were used to interpret the direction and magnitude of the relationship. The  $\beta$  coefficients showed the responsiveness of the dependent variable as a result of unit change in each of the independent variables (e-procurement practices). Table 4.7 presents the regression model appropriateness of fit statistics to determine whether procurement performance has a linear dependence on level of IFMIS adoption, management commitment, capacity and training and resistance/acceptance.

**Table 4.7: Model Summary**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
0.769a	0.592	0.466	0.65782

a. Predictors: (Constant), Level of IFMIS adoption, Management Commitment, Capacity and training, Resistance/acceptance

*Source; Researcher 2015*

The study established implementation of IFMIS had a positive effect procurement performance with a correlation coefficient of 0.769. This depicts a strong linear relationship between procurement performance and IFMIS implementation. The coefficient of determination obtained was 0.592. The coefficient of determination implied that the four independent variables explain 59.2% of the variation in procurement performance while other factors not included in the study contribute 40.8% of the procurement performance.

Analysis of the variance findings indicated ap-value of 0.014 which is less than 0.05. Therefore IFMIS implementation has significant effect on the public procurement performance at 95% confidence level. From the results, the F ratio of 4.709 and the significance of 0.014 shows that there was no much difference in the means. Since F calculated is greater than the F critical this shows that the overall model was significant.

**Table 4.8: ANOVA**

	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	8.151	4	2.038	4.709	0.014a
Residual	5.625	13	0.433		
Total	13.776	17			

a. Predictors: (Constant), Level of IFMIS adoption, Management Commitment, Capacity and training, Resistance/acceptance

b. Dependent Variable: Procurement Performance

*Source; Researcher 2015*

The model coefficients obtained for the study are as illustrated by table 4.9 below. As shown in the model, level of IFMIS adoption has a coefficient of 0.158, management commitment 0.361, capacity and training 0.086 and resistance/acceptance 0.511. The model thus show that all the variables have a positive effect on procurement performance with the most influential being the resistance/acceptance and the least influential being capacity and training. The predictive model developed by the study is  $Y = -0.323 + 0.361X_1 + 0.086X_2 + 0.511X_3 + 0.158X_4$  Where: Y is the

public procurement performance.  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  are coded variables representing; management commitment, capacity and training, resistance/acceptance and level of IFMIS adoption.

**Table 4.9: Multiple Regression Analysis**

	Unstandardized Coefficients	Std. Error	Beta	T	Sig.
(Constant)	-0.323	1.145		-0.282	0.782
Management Commitment	0.361	0.425	0.226	0.848	0.412
Capacity and training	0.086	0.226	0.096	0.379	0.711
Resistance/acceptance	0.511	0.322	0.452	1.589	0.136
Level of IFMIS adoption	0.158	0.173	0.173	0.915	0.377

a. Dependent Variable: Procurement Performance

*Source; Researcher 2015*

Notably, while the coefficients obtained by the regression for management commitment, capacity and training, resistance/acceptance and level of IFMIS adoption are positive, they are not statistically significant at 95% confidence level. This indicates that the variables individually have minimal prediction power on procurement performance this can be attributed to the low rate of IFMIS adoption in the government ministries as indicated in the findings as per the period of this study.

#### **4.9 Discussion of findings**

The general objective of this study was to establish the implementation and impact of integrated financial management information system on procurement performance at the national government of Kenya. To a moderate extent, the study found that various government ministries had adopted various functionalities of IFMIS.

The first specific objective was to establish IFMIS implementation process at national government. The findings show that all the 18 ministries (100%) had implemented IFMIS. This shows IFMIS has been incorporated by the ministries in conducting their procurement practices. This can be attributed to the fact that the government of Kenya issued a directive of ensuring that

IFMIS was implemented in all public sectors. The ministries were thus able to conduct e-procurements efficiently.

Further, the respondents were further required to rate the extent to which various e-procurement practices had been adopted in the government ministries. E-Invoicing (delivery of bills and related information using electronic communications) was the most used IFMIS tool with a mean of 4.2235 and standard deviation of 1.0984, followed by E- Requisitioning (mean of 3.8123 and standard deviation of 0.6356), e-informing (mean of 3.1212 and standard deviation 1.4374), e-Sourcing (mean of 2.2011 and standard deviation 0.4645), e-tendering- (mean of 2.0888 and standard deviation of 0.8356), e-catalogue- (mean of 1.6565 and standard deviation of 0.9923), e-reverse auction (mean of 0.9212 and standard deviation of 0.9987). E-auction and e-market sites were least adopted practices.

Overall, the e-procurement practices were established to have been adopted to a moderate extent having a mean of 2.5778. This indicates low adoption of e-procurement but with the government commitment to adopt e-procurement as a way to address many public sector procurement challenges, more e-procurement reforms. The findings can be compared with those of Kamotho (2014) who found that most state corporations are fast adopting e-procurement to enhance their procurement performance. However, the success of the adoption is yet to be achieved to a big extent.

The second specific objective was to establish the factors affecting IFMIS implementation in the national government. Various challenges were identified as to affect IFMIS implementation. They included resistance and acceptance of IFMIS, lack of knowledge on how to use the system, preference for manual system, lack of staff involvement in development of IFMIS and management commitment. Other factors affecting implementation of IFMIS included lack of proper records management skills, political influence which influence how IFMIS is implemented, influence of other stakeholders on IFMIS implementation, government structures, the technicality of the goods being sourced and staff attitude towards IFMIS implementation. These findings compare with those of Diamond and Khemani (2006) who found that in Uganda show that lack of staff has been blamed for the slow implementation of IFMIS (Diamond and Khemani 2006). Further, Chene (2009) argues that what matters most is the commitment of the mid-level management, entire the management should effectively assess the current institutional

conditions, allocate the appropriate budget for the IFMIS implementation and advise according to the other staff for the IFMIS to be fully implemented.

The third specific objective was to establish the effects of IFMIS implementation on procurement performance in the national government. To a large extent, due to adoption of IFMIS, there was higher supplier performance (mean of 4.1257 and standard deviation of 0.7787); there were no delays in procurement (mean of 4.1257 and standard deviation of 0.9982), procurements had become efficient and effective (mean of 4.3255 and standard deviation of 1.2223), transparency in procurement had improved (mean 3.9948 and 1.9983), quality of procurements had improved (mean of 3.5634 and standard deviation of 0.7763).

Management commitment and procurement performance had a coefficient of 0.640 and a p value of 0.0004. This implies that management commitment has positive and significant effect on procurement performance. This meant that the more the commitment of the management, the higher the procurement performance. Capacity and training, and the resistance and acceptance of IFMIS adoption both have positive significant effect on procurement performance with a coefficient of correlations of 0.592 and 0.726 which have p-values of less than 0.05. The level of IFMIS adoption has a coefficient of correlation of 0.726 and p-value of 0.001. This means that the level of IFMIS adoption alone has no significant effect on procurement performance at 95% confidence level since the p-value of 0.138 is greater than 0.05.

The study also aimed at establishing the factors which influenced how IFMIS was implemented at the ministries. Various factors were established to influence IFMIS to a great extent such as proper records management skills, positive political influence and availability of high proficiency in IT applications. These factors if well integrated influenced successful implementation. The findings established that management commitment, capacity and training, the resistance and acceptance of IFMIS and the level of IFMIS adoption all had positive effects on the procurement performance as they had positive Pearson's coefficients. This implies that a change in these variables would result in a change in the procurement performance. Capacity building and training entails equipping the relevant personnel with the required skills to operate the IFMIS.

These findings compared with those of Mutui (2014) who found that performance of IFMIS was improving since employees had sufficient knowledge to not only be able to use the IFMIS but to also to maximise the output and efficiency of the information systems.

Multiple regressions were used so as to determine the relationship that existed between IFMIS and procurement performance. The outcome of the regression analysis indicates that IFMIS practices have had a significant impact on the procurement performance of ministries under the National Government in Kenya during the period under study. This is supported by the coefficient of determination ( $R^2$ ) of 0.592 and significance change of 0.014 implying that the impact of e-procurement practices is significant at 5% confidence interval. This also implies that management commitment, capacity and training, the resistance and acceptance of IFMIS and the level of IFMIS adoption could explain up to 59.2% changes on the procurement performance. The findings concur to those of Sababu (2001) who found that adoption of information systems increased organizational effectiveness and efficiency and ability of the organization to deliver goods and /or services.

From the model developed, level of IFMIS adoption had a coefficient of 0.158, management commitment 0.361, capacity and training 0.086 and resistance/acceptance 0.511. The model thus show that all the variables have a positive effect on procurement performance with the most influential being the resistance/acceptance and the least influential being capacity and training. Hence IFMIS is established to have a positive and significant effect on how procurements performed in the ministries. This is can be attributed to the fact that it increases the efficiency, timeliness and accountability of procurements, increasing their performance. The findings concur with those of Wainaina (2014) and Kamotho (2014) who also established that integration of IFMIS in conducting procurements highly boosted their performance. The predictive model developed by the study is  $Y = -0.323 + 0.361X_1 + 0.086X_2 + 0.511X_3 + 0.158X_4$  Where: Y is the public procurement performance.  $X_1$ ,  $X_2$ ,  $X_3$  and  $X_4$  are coded variables representing; management commitment, capacity and training, resistance/acceptance and level of IFMIS adoption

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### **5.1 Introduction**

This chapter presents summary of the findings, the conclusions and recommendations of the study based on the objective of the study. It relates the background, research problem and findings and ends with suggestions for further research.

#### **5.2 Summary of the Findings**

This study sought to determine the effect of IFMIS on the procurement performance of ministries under the National Government of Kenya. A population size of all the 18 ministries was used. Primary data was obtained through the use of questionnaires administered to the procurement managers in the ministries. The findings reveal that all the ministries had adopted IFMIS but the extent of implementation of e-procurement varied. Majority of the ministries were found out to have implemented IFMIS to a moderate extent.

The study also sought to establish the resistance and acceptance of the staff towards IFMIS. The findings found out that IFMIS was resisted to a large extent by most of the staff with a mean of 4.2145. This resistance was explained by various reasons such as lack of the expertise to operate the IFMIS system, unwillingness to accept the change and fear of loss of jobs as a result of IFMIS implementation. This resistance reduced the level of acceptance of IFMIS as a method of conducting e-procurement hence impeding its successful implementation.

The study also aimed at establishing the factors which influenced how IFMIS was implemented at the ministries. Various factors were established to influence IFMIS to a great extent such as proper records management skills, positive political influence and availability of high proficiency in IT applications. These factors if well integrated influenced successful implementation. The findings established that management commitment, capacity and training, the resistance and acceptance of IFMIS and the level of IFMIS adoption all had positive effects on the procurement performance as they had positive Pearson's coefficients. This implies that a change in these variables would result in a change in the procurement performance.

Multiple regressions were used so as to determine the relationship that existed between IFMIS and procurement performance. The outcome of the regression analysis indicates that IFMIS



practices have had a significant impact on the procurement performance of ministries under the National Government in Kenya during the period under study. This is supported by the coefficient of determination ( $R^2$ ) of 0.592 and significance change of 0.014 implying that the impact of e-procurement practices is significant at 5% confidence interval. This also implies that management commitment, capacity and training, the resistance and acceptance of IFMIS and the level of IFMIS adoption could explain up to 59.2% changes on the procurement performance.

### **5.3 Conclusions**

Based on the findings, the study concludes that there has been a moderate level of implementation of IFMIS among the government ministries in Kenya. Training/capacity building, employee commitment, resistance/acceptance, management commitment, ICT infrastructure, governance system, reporting accountability, incentives structure and legal framework in place affect the implementation of IFMIS in the government ministries. IFMIS is concluded to be of many benefits such as enabling effective control over public finances, contributes to the enhancement of transparency and accountability and serves as a deterrent to corruption and fraud.

The study also concludes that various factors affect how IFMIS gets implemented of which lack of the required technical expertise was the major challenge. This challenges which are mainly in the form of resistances limit the extent of IFMIS implementation. Resistance is due to various reasons such as lack of the expertise to operate the IFMIS, unwillingness to accept the change and fear of the loss of jobs as a result of IFMIS implementation. This resistance reduced the level of acceptance of IFMIS as a method of conducting e-procurement hence impeding its successful implementation.

The study also established that implementation of IFMIS affects the overall procurement performance in the government ministries in Kenya where management commitment, capacity and training, the resistance and acceptance of IFMIS, and the level of IFMIS adoption have a positive effect on procurement performance.

On the relationship that exists between the variables, the study found that management commitment, capacity and training, the resistance and acceptance of IFMIS and the level of IFMIS adoption have positive influence on procurement performance. This means that a change in these variables would affect how procurements performed. The study thus concluded that

IFMIS does have a positive and significant effect on the procurement performance at the ministries under the National Government.

#### **5.4 Recommendations**

The study established that there was lack of technical expertise among the employees at the ministries. This study therefore recommends that the national government organizes employee trainings and workshops to train them on technical skills. This will increase their expertise and thus contribute greatly to the efficiency in the implementation of IFMIS and e-procurement. So as to increase the level of accountability, efficiency and efficient management in public sector's procurement, the study recommends that the ministries appoint a procurement oversight committee that will see implementation of IFMIS on procurement practices.

The study also recommends that the government should undertake more awareness programs to create positive stance towards e-government projects amongst stakeholders where IFMIS falls. Now that IFMIS is ready to be deployed to the counties a lot of sensitization needs to be done to the users and all stakeholders for it to be successful.

The application of IFMIS requires a high overhead in training across all government ministries and at different levels of staffing. This training, and the basic computer literacy training that has to accompany it, has relied primarily on external funding. As a result training has had to be limited to key users. The study thus recommends a budgetary allocation of the same to increase computer literacy among the ministries' employees.

#### **5.5 Limitations of the Study**

The research was constrained by several factors that might have affected the results as well as the scope. Time was a major constraint, making it difficult to obtain more than one respondent from each ministry. Also due to the numerous procurement related cases before the anti-corruption commission, some of the decision makers especially in the procurement department refused to fill up our questionnaire treating the exercise with a lot of suspicion. The researcher however explained to them that the data collected was just for academic purposes and won't be published without their consent.

The study used primary data alone to make the study findings and conclusions. Primary data suffers from accuracy concerns where the accuracy of the information cannot be verified. Further

the data tend to be subjective since it reflects the opinions of decision makers. This challenge was addressed by use of likert scale and designing research questions to be as objective as possible.

Another limitation faced was that as the IFMIS system is still very new in Kenya, data from local sources for literature review was not readily available and the researcher had to rely on literature from outside the country and in some instances for general ICT adoption principles. Despite these challenges the validity of the findings emanating from this study cannot be compromised.

### **5.6 Suggestions for Further Research**

The study sought to find the effect of IFMIS on procurement performance in the public sector in Kenya. The study population involved the Government Ministries based in Nairobi. Further studies could be undertaken on County governments in Kenya. The study will be important since implementation of IFMIS at County level is different from National government.

Further, the researcher obtained a sample composed of one officer directly involved in the use of IFMIS in each ministry. A similar study can be done using more expanded scope whereby all cadres of staff are involved, this could form a basis for further research.

A study to determine the relationship between IFMIS and procurement performance, a longitudinal approach can be carried out. Data can be collected every year for a number of years. This will ensure that the data collected is accurate and more reliable. The data should be collected from more than one respondent per ministry.

To further test the research model accuracy confirmatory factor analysis will need to be carried out to further test the model so established and to confirm the findings of the study. Further studies can be conducted to test and confirm the factor loadings in different state corporations so as to establish the validity and strength of the model. Also, during the study a number of challenges facing e-procurement adoption were identified. There is need for further research to focus on the critical success factors for successful adoption and implementation of e-procurement.

Additionally, further research should be emphasized on the determinants of public procurement performance. This will shed more light on the variables that need to be included in future research when studying procurement performance in public sector. The study also concentrated

with the internal users of the system and the internal customers and future research should be carried to include external users who interact with the system such as the suppliers.

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## APPENDICES

### APPENDIX I: QUESTIONNAIRE

This study seeks to obtain information regarding the effects of integrated financial management information system on procurement performance at the National Government of Kenya. Kindly provide information outspokenly and honestly as possible. All information received will be treated confidentially and used for academic purposes only. Answer by writing in the spaces provided or by ticking in the appropriate box.

#### SECTION A: IMPLEMENTATION OF IFMIS PROCESS

1. Name of the ministry..... (Optional)

2. For how long have you worked in this ministry?

a) 0 was 3 years

b) 4 was 6 years

c) 7 was 9 years

d) 10 was 12 years

e) Over 12 years

3. Has your ministry adopted IFMIS?

Yes  No  Not aware

4. Kindly indicate the extent to which the ministry has adopted each of the following methods of IFMIS in procurement practices. Use the scale of: 1 was 5 where: 1 = No Extent; 2 = Small extent; 3 = Moderate Extent; 4 = Large Extent; 5 = Very Large Extent



<b>E- Procurement Practices-Level of Adoption</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
e-Requisitioning (sending requests of requirements to the AIE holders for approval)					
e-Tendering- (sending requests for information and prices to suppliers and receiving the responses of suppliers using Internet technology)					
e-Catalogue- (list of goods or services on sale with their description and prices published as an electronic document)					
e-Invoicing- (delivery of bills and related information using electronic communications)					
e-Auction- (sell or bid for products or services via the Internet)					
e-Sourcing- (identifying new suppliers using Internet technology)					
e-Reverse Auction- (sellers bid for the prices at which they are willing to sell their goods and services)					
e-Informing- (gathering and distributing purchasing information)both from and to internal and external parties using Internet technology)					
e-Market Sites- (use virtual marketplace based on the internet where numerous companies execute economic transactions)					

5. How do you rate IFMIS implementation at your ministry?

Excellent ( )

Very good ( )

Good ( )

Poor ( )

Very poor ( )

6. Resistance and Acceptance of the IFMIS

a) The following statements can be attributed to staff behavior at your place of work, indicate the extent to which you agree or disagree with each statement on staff resistance or acceptance towards adoption of IFMIS. Use the Likert scale where, 1 was strong disagree 2 was disagree 3 was neutral 4 was agree 5 was strongly agree.

Statement	1	2	3	4	5
Most of the staff prefers using IFMIS system to the manual system?					
IFMIS has been accepted as a suitable means for procurements?					
IFMIS system is resisted by majority of the staff in the Ministry					
Most employees resist IFMIS for fear of losing out control and jobs					
The system exposes corrupt officials that's why it is resisted					
The system is resisted due lack of knowledge on how to use it.					
The system installation stage ignored staff involvement					

b) To what extent has resistance affected implementation of IFMIS system?

No Extent ( ) Small extent ( ) Moderate Extent ( ) Large Extent ( )  
 Very Large Extent ( )

7. In a scale of 1 to 4 has the management played a full role in enhancing the quality process of the system?

No Extent ( ) Small extent ( ) Moderate Extent ( ) Large Extent ( )  
 Very Large Extent ( )

**SECTION B: FACTORS AFFECTING IFMIS IMPLEMENTATION**

8. Please indicate your level of agreement with the following statements that relate to the factors affecting implementation of Integrated Financial Management Information Systems in the Ministry. Use a scale of 1-5 where 1 is strongly disagree 2 is disagree, 3 is neutral, 4 is agree and 5 = strongly agree.

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Implementing IFMIS requires that many government structures start working with available common tools					
There is capacity building and training need to be which enhance proficiency of the staff in IFMIS					
There is positive political influence which influence how IFMIS are implemented					
There is positive influence of other stakeholders on IFMIS implementation					
Technicality of the goods being sourced highly influence IFMIS operations					
There is proper records management skills of the staff					
Availability of high proficiency in IT applications					
The available contracting framework is well defined					
The management is committed towards ensuring proper implementation of IFMIS					
The staff have positive attitude towards IFMIS implementation.					

9. Please specify any other factors which influence successful implementation of IFMIS

.....

10. Which other challenges are facing implementation of IFMIS in the ministries?

.....

.....

11. in your own opinion how has the ministry benefited in the implementation of IFMIS?

.....

.....

**SECTION C: EFFECTS OF IFMIS ON PROCUREMENT PERFORMANCE**

**12. Extent of Procurement Performance**

To what extent is the procurement performance in this ministry? Use a scale of 1 to 5 where 1 is very small extent, 2 is small extent, 3 is moderate extent, 4 is large extent and 5 is to a very large extent.

Statement	1	2	3	4	5
There is high supplier performance in that the suppliers deliver the right goods at the right time					
There is no delays in procurement of products thus reduced procurement cycle					
The firms technology satisfies its procurement processes and leads to customer satisfaction					
The procurement processes are transparent and open					
There is a high level of procurement accountability					
The procurements conducted are efficient and effective					
The procurements are of increased Quality					
Better procurement hence enhanced resource utilization					
Cost savings in the corporations					

13. Are procurement procedures open to public scrutiny?

Yes ( ) No ( )

14. Are procurement officers open to audit?

Yes ( ) No ( )

15. In your own opinion, has implementation of IFMIS affected the procurement performance at the National Government?

Yes ( ) No ( )

Please explain.....

**Thank you for your time.**

## **APPENDIX II: LIST OF GOVERNMENT MINISTRIES**

1. Interior and Coordination of National Government
2. Devolution and Planning
3. Foreign Affairs
4. Defense Ministry
5. Education, Science and Technology
6. The National Treasury
7. Health Ministry
8. Transport and Infrastructure
9. Environment, Water and Natural Resources
10. Land, Housing and Urban Development
11. Information, Communication and Technology (ICT)
12. Sports, Culture and the Arts
13. Labour, Social Security and Services
14. Energy and Petroleum
15. Agriculture, Livestock and Fisheries
16. Industrialization and Enterprise Development
17. East African Affairs, Commerce and Tourism
18. Mining Ministry

**Source:** <http://www.presidency.go.ke/index.php/ministries>