ADOPTION OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM (IFMIS) BY THE NATIONAL GOVERNMENT IN KENYA

Presented By

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DECLARATION

I the undersigned declare that this research is my original work and confirm to the best of my knowledge that this has not been presented for any academic award in any other University.

Sign……Date……..

Miheso Stanley Conrad

REG. NO. D61/75685/2009

This research proposal has been presented for examination with my approval as the University supervisor.

Sign…….…….Date…….…….

Dr. Kate Litodo

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DEDICATION

I dedicate this research to my parents who laid the moral groundwork in my life and for constantly pushing me to be the best that I can be. I will always treasure you. I also dedicate this research to my loving wife who has stood by me through thick and thin to ensure I complete my research.

ABSTRACT

The study explores the IFMIS implementation in Kenya, looking at the challenges faced with IFMIS implementation including training and training materials, information how IFMIS will affect current work practices, stability of IFMIS system, whether IFMIS processes match with manual processes, whether all activities are run within the IFMIS system, whether all payment approvals are only carried out in IFMIS and whether payment vouchers are prepared and approved in IFMIS before payment amongst others. The study also looked at the determinants of success in the adoption of IFMIS such as top Management support and commitment, adequate project funding, strong, Reliable and modern ICT infrastructure, change Management and Communication Strategies, capacity Building and a legislation/ legal framework. Finally the study looked at the current status of the IFMIS reengineering in the Ministries of the National Government of Kenya.

The research methodology focused on literature review, study site, the population, the sampling procedure, methods of data collection presentation and analysis. The methods used in data collection were the use of questionnaires.

The on the extent of IFMIS adoption by the National Government in Kenya was achieved by studying the use of the different modules of public sector budgeting module, Purchase Ordering module, Accounts Payable module, Accounts Receivable module, General Ledger module, Cash Management module and Analytical tools module. The study showed that on average adoption was above 50% with some going as high as 80%. On challenges faced in the adoption of IFMIS, training and traing materials was not one of them as they were adequately catered for, but exchequer budget release of funds on the IFMIS not coinciding with the manual funds release process was a challenge. Further on determinants of IFMIS success strong an reliable ICT infrastructure and Capacity building were seen to have a significant effect on the module records to report-GL.

LIST OF ABBREVIATIONS

ERP	Enterprise Resource Planning
G2B	Government to Business Enterprises
G2C	Government to Citizens
G2G	Government to Government
ICT	Information and Communication Technology
IFMIS	Integrated Financial Management Information System
IPPD	Integrated Personnel and Pensions Database
LAIFOMS	Local Authority Integrated Financial Operations Management Systems
LPO	Local Purchase Order
OECD	Organisation for Economic Co-operation and Development
PEFA	Public Expenditure and Financial Accountability
PEM	Public Expenditure Management
PFM	Public Financial Management
SCOA	Single Chart of Accounts
TAM	Technology Acceptance Model

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CHAPTER ONE: INTRODUCTION

1.1 Background

The Financial Management Information System (IFMIS) is a government to government (G2G) or inter-agency relationship. It is the automation of the Public Financial Management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for financial management of line ministries, agencies and other public sector operations (Rodin-Brown, 2008). A strong PFM system is a catalyst 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 with the aim of improving service delivery.

In the context of the current development planning and visioning strategy (Government of the Republic of Kenya, 2008), Kenya's development goal is to create and sustain a high level of economic growth whose benefits are invested to ensure a just and cohesive society enjoying equitable social development in a clean and secure environment. To achieve this, the Public Expenditure and Financial Accountability (PEFA) Program founded in 2001 takes a country's public expenditure, procurement and financial accountability systems as crucial in assisting governments to serve their citizens better.

The Government of the Republic of Kenya consists of the Presidency, 18 Ministries, the Office of the Attorney General, The Judiciary, The National Audit Office, the Office of Controller of Budget, the Office if the Director of Public Prosecution and 14 Commissions (Office of the President, May 2013). Njuru (Njuru, 2011) noted that the Kenyan e-government was launched in 2004 by the administration of President Mwai Kibaki. According to the President, the main objectives of implementing e-government were to enhance delivery of public services, improve information flow to citizens, promote productivity among public servants, and encourage citizens' participation. According to Gichoya (Gichoya, 2005) the Kenyan government has initiated some capital investment towards setup and installation of ICT infrastructure through partnerships with development partners. He said that the government contribution is usually in the form of technical and support staff and facilities such as buildings.

Generally the use of ICT in the government has been increasing with most ministries and departments having websites where information on activities is available. One area where there is a lot of activity is in the financial management sector where there are initiatives such as

Integrated Financial Management Information System (IFMIS), the Local Authority Integrated Financial Operations Management Systems (LAIFOMS) and the Integrated Personnel and Pensions Database (IPPD) to standardise the processes and provide up to date record keeping.

The IFMIS is designed to improve systems for financial data recording, tracking and information management (Office of the Deputy Prime Minister and Ministry of Finance, 2011). This is in response to increasing demands for greater transparency and accountability in the management of public finances. The IFMIS system ensures higher degree of data quality improves workforce performance for improved business results and links planning, policy objectives and budget allocations. The plan noted that the system also enhances the reporting capabilities to support budget planning, it automates the procurement process, it facilitates auto-reconciliation of revenue and payment with automatic file generation, it facilitates automated revenue collections for improved cash forecasting and it provides accurate and up to date information on the Government's financial position.

According to Rodin-Brown (Rodin-Brown, 2008) once the decision is made to introduce a new IFMIS system, challenges that need to be anticipated and planned for include issues relating to legal framework, business and functional processes, organizational arrangements, budget classification structures, chart of accounts, change Management, systems requirements and specifications, systems development, procurement of the software and hardware, configuration of the software and hardware, data conversion and migration, testing and training and corruption.

Al-Zoubi, Sam and Eam (Al-Zoubi, Sam, & Eam, 2011) in their study indicated that the following factors as have been found to be significant determinants of businesses adoption of e-government and include independent variables such as relative advantage, IT Infrastructure, organization adaptability and mission, organization involvement and consistency, financial resources, competition, and government support. They also found that higher explicitness and accumulation of technology can help the transfer of technological knowledge within the organization and can raise the capability to adopt innovative technologies.

1.1.1 Integrated Financial Management Information System (IFMIS)

E-government uses the e-commerce tools to make the interaction between government and citizens (G2C), government and business enterprises (G2B), and inter-agency relationships or government to government (G2G) more friendly, convenient, transparent, and inexpensive. Seifert (2003) said that the G2G sector represents the backbone of e-government. In Kenya solutions adopted for G2G sectors include the Integrated Financial Management Information System (IFMIS). Rodin-Brown (Rodin-Brown, 2008) notes that in the scale and scope of an IFMIS can vary, from simple General Ledger System to a comprehensive system addressing budget, revenue, expenditure control, debt, resource management, human resources, payroll, accounting, financial reporting, and auditing processes across central government or even including local government and other public sector and quasi-governmental agencies and operations.

Rodin-Brown (Rodin-Brown, 2008) summarised an integrated financial management information system (IFMIS), as an information system that tracks financial events and summarizes financial information. He noted that in the government realm, IFMIS includes the computerization of public financial management (PFM) processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for financial management of line ministries, spending agencies and other public sector operations. Sound systems, strong legal and regulatory frameworks as well as a competent and productive civil service are the cornerstones of an efficient PFM regime.

Diamond and Khemani (Diamond & Khemani, 2005) said that an IFMIS consists of several elements with different functions. He identified the core of an IFMIS to include the following modules and systems, General ledger, Budgetary accounting, Accounts payable and Accounts receivable, and the noncore or other modules as, Payroll system, Budget development, Procurement, Project ledger and Asset module. Generally it is agreed that integration is the key to any successful IFMIS and integration implies that the system uses standard data classification for recording financial events; has internal controls over data entry, transaction processing, and reporting; and has common processes for similar transactions and a system design that eliminates unnecessary duplication of data entry (Rodin-Brown, 2008).

According to Rodin-Brown (Rodin-Brown, 2008) the challenges of implementing successful IFMIS include resistance from the bureaucracies involved; lack of decision-making from the

top; weak human capital; corruption and fraud; IFMIS systems are complicated, expensive, and difficult to manage and maintain; inadequate setting up the chart of accounts; planning; poor communications between implementers, donors, and Government; shortage of management capacity and resources; changes in systems design documents without full agreement; poorly implemented trainings; and unnecessary and spurious project expenditures.

1.1.2 IFMIS in Kenya

The Economic Recovery Strategy for Wealth and Employment Creation (Government of Kenya;, 2003), identified PFM reforms as key to achievement of fiscal sustainability and balance in the public economy, restructuring and re-allocations for growth and poverty alleviation, improved public sector performance and efficiency and effectiveness in the National Government. National Government utilizes public finance to provide goods works and services to members of the public and does so by way of the public sector. The Organisation for Economic Co-operation and Development (OECD;, 2007) describes the public sector as comprising the general government sector plus all public corporations including the central bank. According to the Oxford Policy Management (Oxford Policy Management Limited;, 2011), the way public sector budgets are set, managed, and reported on and the strengthening of public financial management is due to an increased demand for transparency in the way public funds are used the realisation of that public financial management (PFM) is pivotal to economic and developmental success.

The Kenya Vision 2030 (Government of the Republic of Kenya, 2008) has a vision for public service as “a citizen-focused and results-oriented” institution serving a rapidly growing economy and society. Furthermore Kenya recognises that a modern and results-focused public service is a prerequisite for the country’s socio-economic transformation as envisaged under Vision 2030. To this end, measures have been initiated in order to improve public service delivery with e-government being one of them. The Constitution sets out the overall guidelines on the management of public resources and provides for enactment of specific legislation to give effect to the same. The Strategy for Public Finance Management Reforms in Kenya 2013 – 2018 (Government of Kenya;, 2013) provides a framework for implementing reforms envisaged in the Constitution, the Public Finance Management Act 2012 and other Public Finance legislation (enacted pursuant to the provisions of Chapter 12 of the Constitution), as well as taking forward the reform agenda started under the 2006-2011 PFM strategy.

Kenya has been implementing a broad-based public reform program partly founded on an e-government vision which was officially articulated in 2004 with the adoption of the E-Government Strategy. A number of institutions have been setup to help in the attainment of this vision such as the Kenya E-Government Secretariat and solutions adopted such as Integrated Financial Management Information System (IFMIS), and the Local Authority Integrated Financial Operations Management Systems (LAIFOMS).

The IFMIS Re-Engineering Strategic Plan 2011-2013, said that the development of the IFMIS an Oracle based Enterprise Resource Planning (ERP) Software, started in 1998 whilst deployment of the system to line ministries commenced in 2003. The original system covered Public Sector Budgeting, Purchase Ordering, Accounts Payable, Accounts Receivable, General Ledger and Cash Management as well as supplying analytical tools. The report says that this system has been deployed in line ministries and the IFMIS Re-Engineering Strategic Plan 2011-2013 states that in line with the Public Financial Management Act 2012 (Article 12), the IFMIS has been implemented to connect all government ministries, agencies and departments to a core network for purposes of effecting a single public financial management system, there has been stabilization of three accounting modules i.e. General Ledger, Purchasing Order and Accounts Payable and activation of additional modules such as cash management, accounts receivables, and fixed assets.

The report further states that there has been the development of a new Single Chart of Accounts (SCOA) mapped into the IFMIS system and the 2012-2013 national budget developed using the new SCOA. The district Vote book system was also updated with the new SCOA. IFMIS has also developed and implemented a Plan to Budget system that has enhanced the efficiency and effectiveness of budget making which was used to develop the revised budget in December 2012. A Procure to Pay system is under development and once fully implemented, the full procurement process from planning, requisition, procurement of goods and services, and payment of suppliers will be automated. Finally an IFMIS Academy has been established to build capacity of IFMIS end users in ministries, departments and agencies.

1.2 Research problem

E-Government projects can have three main outcomes: total failure; partial failure; and success, of e-government projects in developing/transitional countries, it is estimated that 35% are total failures; 50% are partial failures; and only some 15% can be fully seen as successes

(Heeks, 2008). This high rate of failure is a major problem and Heeks (Heeks, 2008) noted that it brings serious direct and indirect financial costs, damages morale, credibility and trust and it prevents the benefits of e-government from being delivered.

Diamond and Khemani (Diamond & Khemani, 2005) noted that in most developing countries, budget execution and accounting processes were or are either manual or supported by very old and inadequately maintained software applications. They said that this has had detrimental effects on the functioning of their public expenditure management (PEM) systems and that the consequent lack of reliable and timely revenue and expenditure data for budget planning, monitoring, expenditure control, and reporting has negatively impacted budget management resulting in a poorly controlled commitment of government resources, often leading to a large build up of arrears; excessive borrowing, pushing up interest rates and crowding out private-sector investment; and misallocation of resources thus undermining the effectiveness and efficiency of service delivery. Further, they said governments have found it difficult to provide an accurate, complete, and transparent account of their financial position and this lack of information has hindered transparency and the enforcement of accountability in government. In light of these adverse developments, it is perhaps not surprising that many developing countries have pressed for, or have been pressed into, adopting financial management information system (IFMIS) projects to strengthen their PEM systems.

In Kenya there has been an adoption of e-government for use in PFM using IFMIS, but according to the Government of Republic of Kenya PEFA Assessment (KPMG;, 4 December 2012), accounting, recording and reporting systems are beset with issues, related to compliance with procedures and IFMIS-system errors that damage the credibility of the Government in terms of its perceived capabilities in PFM management. The assessment also adds that the problems in preparing accurate end-year accounts are also partly due to lack of accounting discipline, but also relate to incomplete data in IFMIS some of which date back several years, and also to the data still held in manual records that together with IFMIS data are used to prepare the final accounts. Many key activities are still undertaken outside the system, exchequer budget releases of funds on IFMIS commences after the manual funds release process is completed, manual payment approvals, manual payment vouchers, manual purchase orders and errors with the manual capture of LPOs and Invoices onto the IFMIS (Office of the Deputy Prime Minister and Ministry of Finance, 2011). Due to the challenges with IFMIS, the Government of Kenya decided to re-engineer IFMIS.

Gichoya (Gichoya, 2005) described the characteristics that define Kenyan ICT environment as, most projects are initially donor funded, some donations are made without prior consultation or carrying out a needs analysis by the recipient organization and operational and running costs are met by the government. He noted that funding usually ends with the project phase, the budgets for ICT are inadequate but rising and there is a lack of ICT policies and master plans to guide investment with a number donors funding ICT leading to multiple investments for the same product, there is a focus on ICT applications that support traditional administrative and functional transactions rather than on effective information processing and distribution within and without government departments and unstable ICT resources.

Alshehri and Drew (Alsheri & Drew, 2010) said that the drivers of e-government adoption include a strong and modern ICT infrastructure in all governmental organisation and agencies before the adoption process, security and privacy, citizen's awareness of e-government services and other new e-services need be addressed, ease of use for all e-services, training of top management and authority leaders within the public sector's, a high level of collaboration and cooperation between all government agencies, issues relating to societal structure and creating a uniform strategic plan for e-government projects . Diamond and Khemani (Diamond & Khemani, 2005) identified three guiding characteristics for a well-designed IFMIS as follows, 1) it is a management tool that should cater to management needs not just those of the central agencies, but also line agencies, 2) it should provide a wide range of nonfinancial and financial information for decision making and be anchored in the government accounting system and 3) it should be designed to perform all necessary accounting functions as well as generate custom reports for internal and external use. They said that a well-designed IFMIS is a system whose role is to connect, accumulate, process, and then provide information to all parties in the budget system on a continuous basis.

As a result of the forgoing this research looks at the problems with IFMIS implementation specifically; what are the challenges faced in its adoption in Kenya, the determinants to its successful implementation and the process of IFMIS re-engineering in the National Government of Kenya? How much of IFMIS has the government implemented? And what challenges is it facing when implementing this new system, what are the drivers of this implementation?

1.3 Research Objectives

The general objective of the study is to evaluate the implementation of IFMIS by the national government in Kenya, specifically to:

a). Determine the extent of IFMIS adoption by the National Government in Kenya.
b). Establish the challenges or constraints faced in the adoption of IFMIS in the National Government in Kenya.
c). Identify the drivers of IFMIS adoption by the National Government in Kenya.

1.4 Value of the Study

This study contributes to the body of knowledge needed to provide understanding about the implications of e-government on public finance management in Kenya in order to improved accountability and transparency and service provision in the public. In addition, the research provides a reference framework for other scholars to conduct similar studies in Sub-Saharan Africa and around the world.

CHAPTER TWO: LITERATURE REVIEW

This chapter seeks to review the literature that forms the basis of this study and compares and contracts the findings from previous researchers.

2.1 E-government

The Kenyan Government is made of two tier system of Governments; the National Government and the County Governments. According to the Kenya information guide (Kenya Government, 2013), the National Government is the broad body coalition consisting of the judiciary, the cabinet and the legislature structured through with administrative and policy making power. The National Government coordination Act no 1 of 2013 states that the National Government is empowered to carry its functions by the constitution and the acts of parliament. The constitution at the fourth schedule provides for the distinct functions of the National Government and that any function incidental that is not assigned to the county Government is a function of the National Government (Article 186 (3) of the constitution).

The World Bank website (The World Bank, 2013) refers to "E-Government" as "the use by government agencies of information technologies, such as Wide Area Networks, the Internet, and mobile computing, that have the ability to transform relations with citizens, businesses, and other arms of government." The Kenya e-government website (Kenya Government, 2013) notes that e-Government is a fundamental element in the modernization of Government. It provides a common framework and direction across the public sector and enhances collaboration within and among public sector organizations and institutions, between Government and the business community, and between Government and the citizens that it serves in the implementation of Government Policies. The e-Government Strategy of Kenya is designed to achieve pre-determined set of goals and objectives including better and efficient delivery of Government information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all Kenyans in line with development priorities outlined in the Economic Recovery Strategy for Wealth and Employment Creation. This is why Kenya established the e-Government Programme in June 2004

Gordon (Gordon, 2002) described e-government as the use of information and communications technology, such as the Internet, to improve the processes of government while Seifert (Seifert, 2003) described e-government as the continuous optimization of service delivery, constituency

participation, and governance by transforming the internal and external relationships through technology, the Internet, and new media. Fountain (Fountain, 2001) on the other hand said that e-government is synonymous to a virtual state where most of the operations, structure and capacity of the government are based on information and communication technology. Fang (Fang, 2002) described e-government as a way for governments to use information and communication technologies, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes.

Njuru (Njuru, 2011) central argument is that e-government is not only a tool or platform that enhances delivery of public services but also has the potential to reform the way policies are formulated and implemented in terms of efficiency, accountability, transparency, and citizen's participation. She also argued that e-government can be viewed from an evolutionary, rather than revolutionary, perspective because governments around the world had in most part used some form of computerization before the notion for e-government developed. Schwester (Schwester, 2009) was also of the view that e-government is an evolutionary process. Layne and Lee (Layne & Lee, 2001) describe a four stage growth model to develop a fully functional e-government as: (1) cataloguing, (2) transaction, (3) vertical integration, and (4) horizontal integration. They then adds that e-government presents several technical, economical and social challenges that will surface as the e-government development moves from the initial "cataloguing" stage toward full vertical and horizontal integration.

Siau and Long (Siau & Long, 2004) noted that the strategic vision of e-government is to be citizen-centred, not bureaucracy-centred; result-centred; and market-centred, actively promoting innovation. Signore, Chesi and Pallotti (Signore, Chesi, & Pallotti, 2005) defined e-government as the use of ICT to improve the process of government and said that it is can be defined as citizen's services, re-engineering with technology, or procurement over the internet or as the transformation of governance processes resulting from the continual and exponential introduction into society of more advanced digital technologies.

Seifert (Seifert, 2003), Siau and Long (Siau & Long, 2004) and the Kenya government (Kenya Government, 2013) all noted that e-government encompasses a wide range of activities and actors, that include government-to-government (G2G), government-to-business (G2B), government-to-citizen (G2C) and government-to employee (G2E). Among the four areas, they noted that G2C and G2E involve interaction and cooperation between government and

individuals, while G2B and G2G both address interaction between government and organizations. G2C and G2B represent the external interaction and collaboration between government and outside institutions, while G2E and G2G involve the internal interaction and cooperation between the government and its employees, and between other governments at different levels and at different locations. They said that each of these sectors represents a different combination of motivating forces and initiatives but some common goals include improving the efficiency, reliability, and quality of services for the respective constituency groups.

Seifert (Seifert, 2003) went further and added that the G2G sector represents the backbone of e-government and suggested that governments must enhance and update their own internal systems and procedures before e-transactions with citizens and businesses can be successful. He noted that G2G e-government involves sharing data and conducting electronic exchanges between governmental actors and involves both intra- and inter-governmental agency exchanges at the national level, as well as exchanges between the national, and local levels. Seifert (2003) said that Government-to-Business (G2B) initiatives include the sale of surplus government goods, and the procurement of goods and services and that several different procurement methods are used in relation to the G2B sector such as performance-based contracting, where the payment made to the contractor based on the actual goals and outcomes of the job and share-in-savings contracts where the contractor pays for the up-front costs of a project and receives payment passed on the savings generated by switching from the previous system. Reverse auctions are used for purchasing products that are standardized and easily evaluated for quality, such as off-the-shelf technology components or office supplies, these are conducted over the Internet. A reverse auction entails companies openly bidding against each other in real time to win a government contract and its purpose is to drive prices down to market levels.

Seifert (Seifert, 2003) noted that e-government intersects many legislative issues, including privacy, digital divide, public access to government information, service delivery, and information security as such the policy framework developed to guide it is an important factor in the success of the initiative. Seifert (Seifert, 2003) identified some of the potential opportunities of e-government to include new services, increased citizen participation in government, and an enhanced national information infrastructure. Alshehri and Drew (Alsheri & Drew, 2010) said that the key challenges affecting e-government adoption are technical barriers, such as ICT Infrastructure and privacy, security and trust in e-services, organisational

barriers such as a lack of qualified personnel and training, resistance to change, lack of policy and regulation for e-usage, lack of programs to promote e-government benefits and advantages, and lack of strategic planning, social barriers such as culture, barriers caused by lack of support from leaders and management financial barriers. Seifert (Seifert, 2003) noted that the multidimensional nature of e-government suggests that there are no quick fixes for the concerns raised, but rather that issues will need to be addressed with careful attention to context and precedent.

All these studies have generally described e-government as the public sector uptake of technology applications to enhance services delivery to citizens, businesses, and other stakeholders, and that it encompasses internal and external dimensions and despite the challenges faced, as noted by Picci (Picci, 2005) that "most people would agree that the new information technologies hold vast potentials for improving public administrations, and that better administrations in turn would have a positive influence on the economy and on society".

2.2 E-government in Public Financial Management

Rodin-Brown (Rodin-Brown, 2008) described an integrated financial management information system (IFMIS), is an information system that tracks financial events and summarizes financial information. In its basic form, an IFMIS is little more than an accounting system configured to operate according to the needs and specifications of the environment in which it is installed.

An IFMIS will consist of several elements with different functions. The core of an IFMIS could be expected to include the following modules and systems, general ledger, budgetary accounting, accounts payable and accounts receivable. The noncore or other modules include, payroll system, budget development, procurement, project ledger and asset module (Diamond & Khemani, 2005).

According to Diamond and Khemani (Diamond & Khemani, 2005), the benefits of an IFMIS are improved recording and processing of government financial transactions which allows prompt and efficient access to reliable financial data that supports enhanced transparency and accountability of the executive to parliament, the general public, and other external agencies. Another benefit is that it strengthens financial controls, facilitating a full and updated picture of commitments and expenditure on a continuous basis allowing a comprehensive picture of budget execution. Finally, it provides the information to ensure improved efficiency and effectiveness of government financial management by providing comprehensive financial

information on current and past performance which assists budgetary control and improved economic forecasting, planning, and budgeting.

Diamond and Khemani (Diamond & Khemani, 2005) identified three guiding characteristics for a well-designed IFMIS. They said that it is a management tool that should cater to management needs not just those of the central agencies, but also line agencies. It should support the management of change and must be viewed as an integral part of the budget system reform hence, not be designed just to meet present requirements, but also to support those needs that are likely to arise as parallel budget reforms are implemented. They then said that the IFMIS should provide a wide range of nonfinancial and financial information for decision making and be anchored in the government accounting system. It should be designed to perform all necessary accounting functions as well as generate custom reports for internal and external use. Thirdly it is a system whose role is to connect, accumulate, process, and then provide information to all parties in the budget system on a continuous basis.

Integration is the key to any successful IFMIS and integration implies that the system uses standard data classification for recording financial events; has internal controls over data entry, transaction processing, and reporting; and has common processes for similar transactions and a system design that eliminates unnecessary duplication of data entry (Rodin-Brown, 2008). Rodin-Brown (Rodin-Brown, 2008) said that a more comprehensive, well integrated system will provide timely, accurate, and consistent data for management and budget decision-making; support government-wide as well as agency-level policy decisions; integrate budget and budget execution data, allowing greater financial control and reducing opportunities for discretion in the use of public funds; provide information for budget planning, analysis and government-wide reporting; facilitate financial statement preparation; and provide a complete audit trail to facilitate audits.

2.3 Public Financial Management System in Kenya

The Strategy for Public Finance Management Reforms in Kenya 2013 (Government of Kenya;, 2013) notes that since independence, the Government has undertaken various public finance reform initiatives. The Strategy for the Revitalization of Public Financial Management System in Kenya played a prominent role in guiding reforms in the PFM Sector and building on the institutional transformation from 2006-2011. Key areas were targeted for reform, including transformation of political priorities into annual budget allocations; credibility of budget;

rollout of the Integrated Financial Management System (IFMIS) and quality, timeliness and accuracy of financial reports.

IFMIS Re-Engineering Strategic Plan 2011-2013 (Office of the Deputy Prime Minister and Ministry of Finance, 2011) said that the development of IFMIS in Kenya started in 1998 whilst deployment of the system to line ministries commenced in 2003. It added that the Government of Kenya's IFMIS is an Oracle based Enterprise Resource Planning (ERP) Software. In 2003 the Ministry of Finance contracted a Vendor to deliver the Oracle based IFMIS with the following modules procured; The Public Sector Budgeting; Purchase Ordering, Accounts Payable; Accounts Receivable; General Ledger (GL) and Cash Management (CM) plus additional analytical tools like Oracle Financial Analyzer and the Financial Statements Generator. The Government noted that this modular approach did not promote the intended integration and created many systemic weaknesses as a result a new strategy was adopted where there is a full cycle end-to-end integrated approach. This new strategy resulted in the processes being redefined and strategic interventions undertaken for the re-engineering of IFMIS which has been now been categorized as follows; Re-engineering for Business results (BPR); Plan to Budget; Procure to Pay; Revenue to Cash – CM; Records to Report – GL; ICT to Support; and Communicate to Change (Office of the Deputy Prime Minister and Ministry of Finance, 2011).

IFMIS Re-Engineering Strategic Plan 2011-2013 defines BPR as a process that will address the disparities between the existing manual processes and suitable automated processes before workflows are fully implemented which will provide the requisite oversight and controls and allow IFMIS to perform the PFM function more efficiently and securely than is currently the case. Plan to Budget encompasses all activities related to annual planning and budgeting (revenue, cost, profit, cash flow, and capital / investment), allocation of resources to meet these plans, and the provision for a mid-year revision of the annual budget. Procure to Pay are the end to end processes that commence from procurement of goods and services to payment of the suppliers and may include a basic procurement processes such as: purchase requisitions, receipts matched to invoices when delivered, then payment; it may also entail a more complex cycle such as use of different sourcing rules to determine suppliers, recording receipts into inventory according to supplier shipping notifications, creation of invoices from the inspection process and payment directly into the suppliers' bank accounts.

IFMIS Re-Engineering Strategic Plan 2011-2013 defines Revenue to Cash as all the activities related to revenue and cash management from generation, collection, and recording of revenue to distribution of funds to the ministries. It also involves management and control of the actual and forecasted cash inflows and outflows. Records to Report provides a structure for effectively recording transactional data from all processes, processing that data right through to the production of regulatory, financial and management reports. It begins with the collection of source transactions and other accounting data and ends with the creation of reports. It encompasses the majority of activities typically referred to as "general accounting". ICT to Support provides the technical support underpinning effective and efficient automation of all the IFMIS process levels. It anchors a dedicated support function for software, hardware and infrastructure. Finally Communicate to Change focuses on aspects of change management, capacity enhancement as well as information generation and dispersion, education and effective communication among IFMIS stakeholders.

2.4 Challenges of implementing an IFMIS

IFMIS Re-Engineering Strategic Plan 2011-2013 identified challenges faced with current IFMS System. The first one is parallel running where although the IFMIS was intended to automate and seamlessly integrate key business functions, many key activities are still undertaken outside the system. The second challenge with exchequer budget releases where the release of funds on the IFMIS commences after the manual funds release process is completed. In effect the budget supply function is outside the IFMIS yet the grant of credit and exchequer releases can all be effected online using the Oracle Dossiers through the GL.

The third challenge identified is that of manual payment approvals where transactions are only captured on the system as a matter of compliance and for payment processing. The is an existence of parallel systems for payment approval. The fourth challenge is manual payment vouchers where when invoices are received, payment vouchers are prepared, supported with LPO's, requisitions and evidence of delivery and then forwarded for manual approval. Once the approval process is complete, they are then entered on the IFMIS for payment. The fifth challenge is on purchase orders where manual purchase orders are currently issued to suppliers and then 'dead data' is then entered onto the system yet IFMIS also generates purchase orders. The sixth challenge is of errors where the manual capture of LPOs and Invoices onto the IFMIS inevitably results into errors and this compromise the integrity of data on the IFMIS.

The success of the e-government adoptions are a mixed bag for example Alshehri and Drew (Alsheri & Drew, 2010) observed that while more and more governments around the world are introducing e-government as a means of reducing costs, improving services, saving time and increasing effectiveness and efficiency in the public sector, the adoption of e-government is facing many challenges and barriers such as technological, cultural, organizational, and social issues which must be considered and treated carefully by any government contemplating its adoption. Njuru (Njuru, 2011) noted that despite the Kenya touted globally for implementing e-government, there is no literature evidence to show that any of the Kenyan e-government's objectives of enhancing delivery of public services, improving information flow to citizens, promoting productivity among public servants, and encouraging citizens' participation has been achieved. Njuru (Njuru, 2011) then identified some generic challenges in implementation such as the introduction of new technology is often met with fear, enthusiasm, and uncertainties, resistance to organizational change, lack a pool of globally benchmarked ICT talents and skills sets, cyber attacks and security issues, resistance to change and lack of skills, competences, and expertise.

Rodin-Brown (Rodin-Brown, 2008) on the other hand said the road to implementing successful IFMIS encounters difficulties, such as resistance from the bureaucracies involved; lack of decision-making from the top; weak human capital; corruption and fraud; IFMIS systems are complicated, expensive, and difficult to manage and maintain; inadequate setting up the chart of accounts; planning; poor communications between implementers, donors, and Government; shortage of management capacity and resources; changes in systems design documents without full agreement; poorly implemented trainings; and unnecessary and spurious project expenditures. Diamond and Khemani (Diamond & Khemani, 2005) on their part said that the issues that have contributed to the limited success of IFMIS projects are lack of clarity in ownership of the system and unclear authority to implement, failure to clearly specify the basic functionality, failure to spend enough time on the design phase, failure to re-engineer procedures, failure to undertake parallel reforms required by the IFMIS, neglect to "sell" the system to agencies, overestimating the information to be included in the system, unrealistically short project timetable, required management input is often underestimated, lack of incentives for reform and prerequisites do not exist.

Signore, Chesi and Pallotti (Signore, Chesi, & Pallotti, 2005) said that e-government challenges include technical issues such as interoperability, privacy, security and multi-modal interaction; Economical issues such as costs, maintainability and portability and social issues

such as accessibility, usability and acceptance. Alshehri and Drew (Alsheri & Drew, 2010) said the challenges of e-government are IT Infrastructural weakness, lack of knowledge about the e-government program, lack of security and privacy of information, lack of qualified personnel and training courses, culture differences, leaders and management support, lack of policy and regulation for e-usage, lack of partnership and collaboration, lack of strategic plans, resistance to change to e-systems and shortage of financial resources

Mullen and Horner (Mullen & Horner, 2004) said that the rapid diffusion of e-commerce in particular has placed existing norms and moral behaviour under pressure and may affect the successful implementation of successive governments' visions of e-Government. Indeed, a 2003 review of 34 IFMIS projects supported by the World Bank over 15 years estimated that only 6 percent of the systems were likely to be sustained after donor support ceased.

2.5 Drivers for implementing an IFMIS

IFMIS Re-Engineering Strategic Plan 2011-2013 identified Critical Success Factors of the Re-engineering IFMIS Strategy as Top Management support and commitment, Revised IFMISD organization structure approved, IFMIS user buy-in, support and commitment, Adequate project funding, Reliable Infrastructure, Staff Facilitation and motivation, Active Steering and Technical committees, Adequate monitoring mechanism, Effective Change Management and Communication Strategies, Appropriate capacity Building for sustainability and Competent firms and consultants supporting the implementation,

These compare favourably with the general drivers of e-government noted such as by Seifert (Seifert, 2003) who identified a number of forces motivating G2G e-government initiatives. These are legislation, interest in improved efficiency, and the growing attention being paid to improving the management of government information technology and public resources. He also identified two primary forces driving the G2B sector, namely the business community and the growing demand by policymakers for cost cutting and more efficient procurement. Finally he noted that interest in G2C initiatives is driven by citizen demand, increased time pressures, and an interest in "better government" through improved efficiency and more reliable outcomes.

Njuru (Njuru, 2011) said that in order to implement an effective and efficient e-government, the personnel must have the skills and the right attitudes across government. Rodin-Brown (Rodin-Brown, 2008) said that the first step in any institutional reform project is a needs

assessment, what is needed, and what can be reasonably achieved, what are the political priorities of stakeholders; How does the current governance system function; What is the existing legal framework, and how does it function; Can the legal framework be used to support the public financial reform process; How does the current fiscal system work; What systems are in place; How is the information being used; What human capacity and technical know-how are available, both at the central and at sub-national levels of government. He said that that the choice of a step-by-step or phased approach offers the best chances for successful implementation as a project can be carefully monitored and reviewed regularly. Rodin-Brown (Rodin-Brown, 2008) said that once the decision has been made to implement an IFMIS, the battle is half won. And that garnering support from those who will use the new system, and overcoming resistance from those who stand to lose from its implementation, or change management, is an important part of any IFMIS project.

The next determinant he noted is selecting the right tools, equipment and technology so that the new systems procured meet the specific conditions and needs of the project, avoiding costly delays and unplanned outlays. And that IFMIS implementation requires patience. The full project life cycle from definition of objectives, to system specifications, to system procurement, configuration, testing, and rollout can easily take seven to ten years, or longer, to complete. As each stage is completed, stakeholders should carefully assess project progress and ensure that the system under development still meets the needs of the government, and that government commitment to the IFMIS is still there. The ultimate goal should be to put in place sound systems that are well understood and embraced by counterparts and in the end will be self-sustaining.

Rodin-Brown (Rodin-Brown, 2008) said that the next key steps in setting up an IFMIS are to design a CoA, assessing know-how gaps and setting up training, configuring the system, setting up change management support, developing training materials and training courses, testing the system, setting up the new Treasury Single Account operation with an appropriate legal basis and switching over from the old system to the new. Diamond and Khemani (Diamond & Khemani, 2005) said that the preconditions for Development of an IFMIS are authorities' commitment and ownership is clear which include clear institutional designation, clear authority to implement and active involvement, with no undue delegation to suppliers, project design needs to be sound, management of project is capable and adequate resources are assured.

It is important to ensure that the above requirements are in place, in the order listed. If this will not be possible in a reasonable timeframe, a phased approach is recommended as well as the acceptance of interim solutions, if necessary. (Diamond and Khemani (Diamond & Khemani, 2005). He said that first, since these projects take time, it is most important in planning technical assistance that, even if accepted as a longer-run solution, the IFMISs make allowances for the problem of filling an interim period of two to three years prior to their full implementation. The second is, before projects are too advanced in preparation, a rigorous risk assessment should be undertaken to ensure that the preconditions for success exist. Third is, there should be a well-defined exit point for external assistance. The fourth is, in that design work special attention needs to be paid to specific critical aspects of the project.

From the literature above the main determinants noted can be summarised as top management support and commitment, human capacity and training, reliable and modern infrastructure, change management and a phased implementation with frequent performance assessments.

2.6 Theoretical perspective

This study is guided by the Technology Acceptance Model (TAM). This model is an information systems theory that models how users come to accept and use a technology. It was developed by Fred Davis and Richard Bagozzi. According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioural intentions, attitude, perceived usefulness of the system, and perceived ease of the system. (Davis, Bagozzi, & Warshaw, 1989). TAM has evolved overtime toTAM2 and extended the original model to explain perceived usefulness and usage intentions including social influence (subjective norm, voluntariness, and image), cognitive instrumental processes (job relevance, output quality, and result demonstrability) and experience (Venkatesh & Davis, 2000). The theory will help in understanding the way e-government is adopted in the Kenyan National Government.

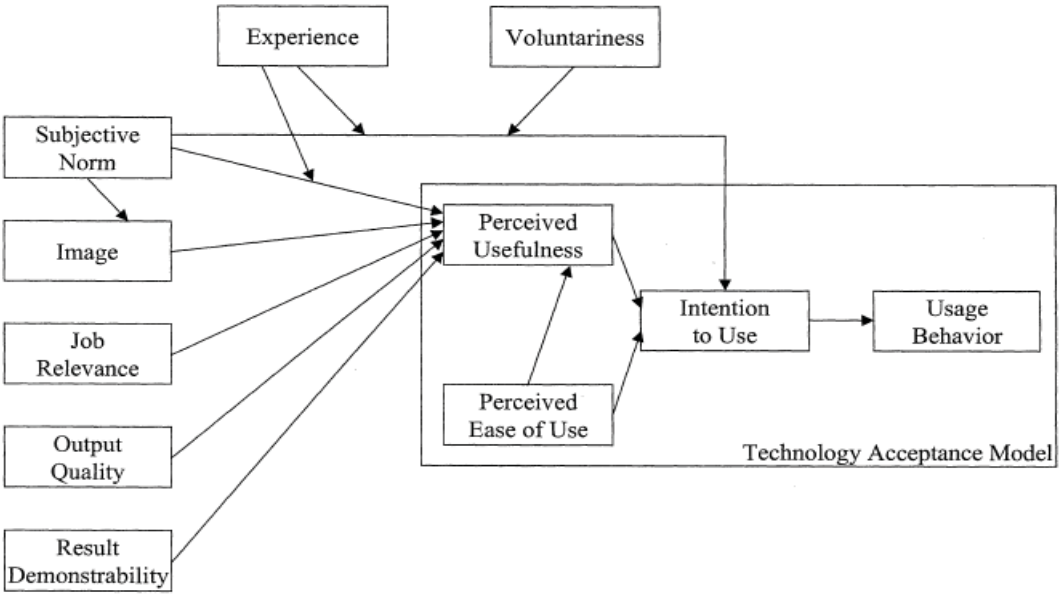

Figure 1 Technology acceptance model - TAM2 - Extension of TAM

2.7 Conceptual Framework

Independent variables **Dependent variable**

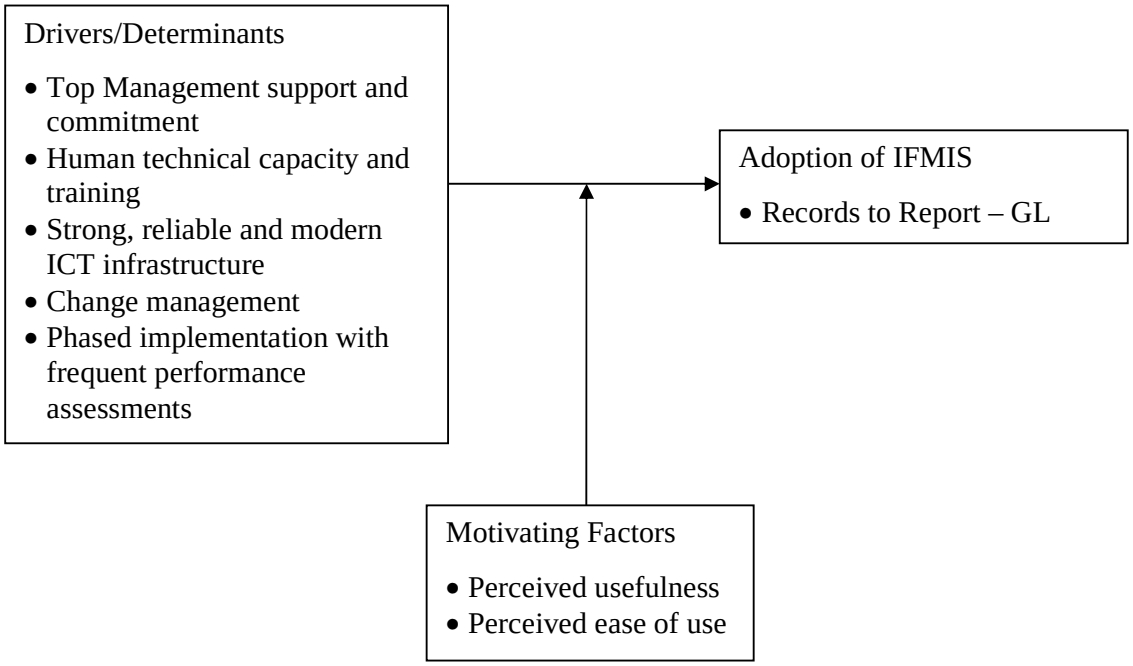

Figure 2 Conceptual Framework

With top management support and commitment the adoption of IFMIS will be made easier as they will provide the resources in terms of finances, human, and physical. They will also drive the policy implementation and ensure that there is a legal framework. Human technical capacity and training ensures that the users and implementers of the system will be able to adequately use the tool provides. Infrastructure is important and will be the backbone of the system from the servers, network and work stations and issue of security and data integrity.

Change management will ensure that the present staffs accept the new IFMIS system being implemented and those staffs that will be declared redundant are adequately compensated. It also ensures that the processes are aligned to the requirements of IFMIS. A phased implementation is important as it ensures that problems encountered are solved early, costs are kept within limits and constant reviews are undertaken to ensure that the original targets are met and there is no scope creep.

Motivating factors of perceived usefulness of the system and perceived ease of use of the will influence the adoption of IFMIS by the users.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research design

The study will be based on descriptive research design. The study aims at collecting information from respondents on the determinants and drivers of adopting IFMIS in the National Government in Kenya. A descriptive study is one in which information is collected without changing the environment using "correlational" or "observational " studies (Anirudhan, 2013). This research will be conducted using questionnaire and observations as the sources of primary and secondary data respectively.

3.2 Population and Sample design

The study will target 18 National Government Ministries. The study will employ non-probability sampling. Kombo and Trump (Kombo & Trump, 2006) said that this method of sampling is mainly applied to find out how a small group, or a representative group, is doing for the purpose of illustration or explanation, as the study is concentrated on the National Government, they will be the only ones sampled. The study will thus purposely sample 3 officers in each of the 18 ministries in the National Government, concentrating on the finance, accounts and procurement officers who are the ones that deal with the IFMIS system bringing the total sampled to 54 officers.

3.3 Data collection

Data collection will be as primary data gathered directly from respondents through questionnaires. The businessdictionary.com (businessdictionary.com, 2013) defines a questionnaire as a list of a research or survey questions asked to respondents, and designed to extract specific information and that it serves four basic purposes which are to collect the appropriate data, to make the data comparable and amenable to analysis, to minimize bias in formulating and asking question, and to make questions engaging and varied. To determine the extent of IFMIS adoption data in the questionnaire is collected using a Likert scale to determine the extent of adoption of different modules of IFMIS. To establish the challenges faced in the adoption if IFMIS, data in the questionnaire is also collected using a Likert scale. To establish the determinants in adoption of IFMIS data will be collected using a "Yes" "No" scale.

3.4 Data Analysis

Data analysis will be done using descriptive statistics to compute percentages of the outcomes and draw bar and pie charts to show the outcomes of extent of IFMIS adoption and challenges of IFMIS adoption in Kenya. Descriptive statistics enable the researcher to summarise and organise data in an effective and meaningful way and provide tools for describing collections of statistical observations and reducing information to an understandable form. Descriptive statistics will be used in Section A on bio data which will be analysed quantitatively using percentages, pie and bar charts. Section B on extent of adoption of IFMIS in the National Government will be analysed using pie and bar charts as will Section C on challenges faced in IFMIS adoption.

The data analysis will also use inferential statistics to make decisions or inferences by interpreting the data patterns to establish the determinants in the adoption of IFMIS by the National Government in Kenya. Section D on the determinants of IFMIS adoption will be analysed using a linear probability model to tell us the probability that the results of our analysis on the sample are representative of the population that the sample represents. Frankfort-Nachmias, and Leon-Guerrero, (Frankfort-Nachmias & Leon-Guerrero, 2006). said that, these tests of significance tell us the probability that the results of the analysis could have occurred by chance when there is no relationship at all between the variables we studied in the population we studied. They gave examples of inferential statistics to include linear regression analyses, logistic regression analyses, ANOVA, correlation analyses, structural equation modelling, and survival analysis, to name a few.

The following regression model will be used to establish the determinants of IFMIS adoption in the National Government in Kenya:

Regression Model

$$Y = a_1 + a_2 x_2 + a_3 x_3 + e$$

Where:

Y = adoption of Revenue to Report-GL by the ministries

x_2= The determinant of adoption

x_3= Motivating factors

e = Error term

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers the analysis of the data, presentations and discussions of the results for the study on adoption of integrated financial management information system (IFMIS) by the National Government in Kenya. The results were obtained from analysis and interpretation of the collected data. The data was obtained from questionnaires administered to those responsible with accounting, budgeting/finance and procurement in the National Government Ministries of Kenya.

4.2 Demographics Characteristics

Data was collected from a sample of respondents from 54 questionnaires distributed of which 40 were completed, which was close to the 46 respondents projected in this research. The response rate of 74 % was attributed to the eagerness of respondents in using this technology.

Table 1: Demographics Characteristics

Variable	Classification of Variables	Frequency	Percentage
Gender	Female	17	43%
	Male	23	58%
Age	Below 25 years	2	5%
	25 – 30 years	10	25%
	31 – 40 years	10	25%
	41 – 45 years	6	15%
	Above 45 years	12	30%
Education level	below O Level	0	0%
	Secondary	7	18%
	Diploma	11	28%
	Degree	18	45%
	Post graduate	4	10%
Department	Finance / Budgeting	14	35%
	Accounts	11	28%
	Procurement	15	38%

Table 1 show that most of the respondents were in the age group of 25 and above (95%). Only 10% had post graduate level education with the majority (45%) having undergraduate level education. The departments that responded were evenly distributed among Finance, Accounts and Procurement.

There were slightly more male (58%) than female respondents as seen in figure 3 below.

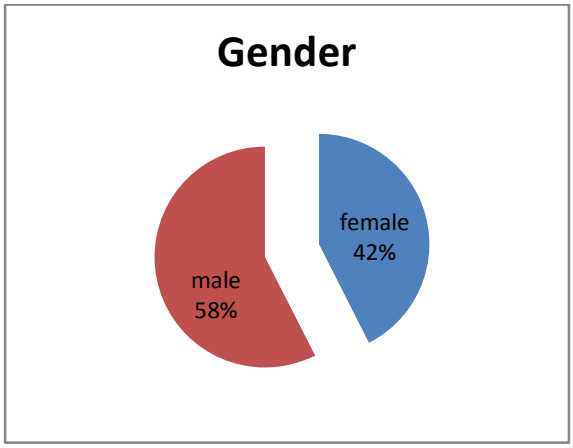

Figure 3 Gender Characteristics

4.3 Usage of IFMIS features/modules

One of the objectives of the research was to determine the extent of IFMIS adoption by the National Government in Kenya. This was achieved by collecting data on the usage of the IFMIS modules in the National Government, of these modules the first seven; Public Sector Budgeting, Purchase Ordering, Accounts Payable, Accounts Receivable, General Ledger (GL), Cash Management (CM), and Analytical tools were implemented first. The next four modules are Plan to Budget, Procure to Pay, Revenue to Cash- CM and Records to Report – GL being new modules under the IFMIS re-engineering and were implemented later. The analysis of the results was done descriptively using frequencies and percentages

4.3.1 Public Sector Budgeting

The analysis of the results on the extent of use of the public sector budgeting module is shown in table 2 below;

Table 2: The Public Sector Budgeting

Use of the module	Frequency	Percent
Very little	12	30.0
Little	4	10.0
Moderate	9	22.5
Large	11	27.5
Very large	4	10.0
Total	40	100

Table 2 indicates that 37.5% used the public sector budgeting to a large or very large extent, with most respondents, 60% (22.5%+27.5%+10%) having used it to some extent, but a total of 30% did not used it a little to very little.

4.3.2 Purchase Ordering

The analysis of the results on the extent of use of the Purchase Ordering module is shown in table 3 below;

Table 3: Purchase Ordering

Use of the module	Frequency	Percent
Very little	10	25.0
Little	0	0.0
Moderate	5	12.5
Large	12	30.0
Very large	13	32.5
Total	40	100

Table 3 indicates that 76% (12.5%+30%+32.5) used the Purchase Ordering moderately and above which was most respondents. A total of 25% used it very little.

4.3.3 Accounts Payable

The analysis of the results on the extent of use of the Accounts Payable module is shown in table 4 below;

Table 4: Accounts Payable

Use of the module	Frequency	Percent
Very little	5	12.5
Little	0	0.0
Moderate	2	5.0
Large	12	30.0
Very large	21	52.5
Total	40	100

Table 4 indicates that most ministries used the Accounts Payable module to a large extent, with most respondents, 82.5% having used it to a large extent, but a total of 12.5% used it very little.

4.3.4 Accounts Receivable

The analysis of the results on the extent of use of the Accounts Receivable module is shown below;

Table 5: Accounts Receivable

Use of the module	Frequency	Percent
Very little	10	25.0
Little	7	17.5
Moderate	2	5.0
Large	4	10.0
Very large	17	42.5
Total	40	100

Table 5 indicates that 42.5% used the Accounts Receivable to a very large extent, while 42.5% (25%+17.5%) used it from little to very little. This indicates that almost half of the respondents either had not used the module or used it a little.

4.3.5 General Ledger (GL)

The analysis of the results on the extent of use of the General Ledger module is shown in table 6 below;

Table 6: General Ledger

Use of the module	Frequency	Percent
Very little	5	12.5
Little	0	0.0
Moderate	4	10.0
Large	10	25.0
Very large	21	52.5
Total	40	100

Table 6 indicates that over half the respondents 52.5% used the General Ledger to a very large extent, with most respondents, 88% (10%+25%+52.5%) having used it to some extent.

4.3.6 Cash Management (CM)

The analysis of the results on the extent of use of the Cash Management module is shown in the table below;

Table 7: Cash Management

Use of the module	Frequency	Percent
Very little	11	27.5
Little	0	0.0
Moderate	10	25.0
Large	8	20.0
Very large	11	27.5
Total	40	100

Table 7 indicates that the use of Cash Management has over 70% using it from moderately to a large extent with a very large percentage 27.5% used it very little.

4.3.7 Analytical tools

The analysis of the results on the extent of use of the Analytical tools module is shown below;

Table 8: Analytical tools

Use of the module	Frequency	Percent
Very little	18	45.0
Little	1	2.5
Moderate	7	17.5
Large	7	17.5
Very large	7	17.5
Total	40	100

Table 8 indicates that 45% used the Analytical tools very little which was the highest frequency. The percentage that used it from moderate to very large only 54%.

4.3.8 Total IFMIS adoption

The analysis of the results on the total adoption of IFMIS shown below;

Table 9:Total IFMIS adoption

Use of the module	Frequency	Percent
None	7	18
Very little	3	7
Little	3	7
Moderate	5	14
Large	11	27
Very large	11	28
Total	40	100

Table 9 indicates that the Total IFMIS adoption was 69% using it to from moderate to a large or a very large extent, a total of 18% did not use it at all.

4.4 Challenges of IFMIS implementation

The study sought to establish the challenges faced in the adoption of IFMIS in the national government in Kenya. Data was collected and the analysis of the results was done descriptively using frequencies and percentages as seen in Table 13 below.

Table 10: Challenges of IFMIS implementation

Challenges of IFMIS implementation	Very little 1	Little 2	Moderate 3	Large 4	Very large 5
Have you been trained on use of IFMIS?	0%	5%	15%	55%	25%
Do you have training materials for IFMIS?	0%	3%	20%	63%	15%
Have you been informed how IFMIS will affect your current work practices?	5%	5%	25%	48%	18%
Is the IFMIS system stable (Down time)?	0%	5%	35%	55%	5%
Do IFMIS processes match with your manual processes?	5%	13%	43%	33%	8%
Are all activities in your department run within the IFMIS system?	8%	20%	43%	15%	15%

Table 10 demonstrates training of IFMIS had been conducted to 100% of respondents with 80% (55%+25%) having had a large or very large extent for training. The same was also seen with training materials where 98% reported being above moderate in provision of training materials. Over 90% have been informed how IFMIS will affect their current work practices and 95% (35%+55%+5%) say that IFMIS is stable with little or no down time. Most (83%) are moderately to a very large extent sure that IFMIS processes match with their manual processes. Table 14 also indicates that 73% (43%+15%+15%) said that all activities in the department are either moderately or to a very large extent run within the IFMIS system.

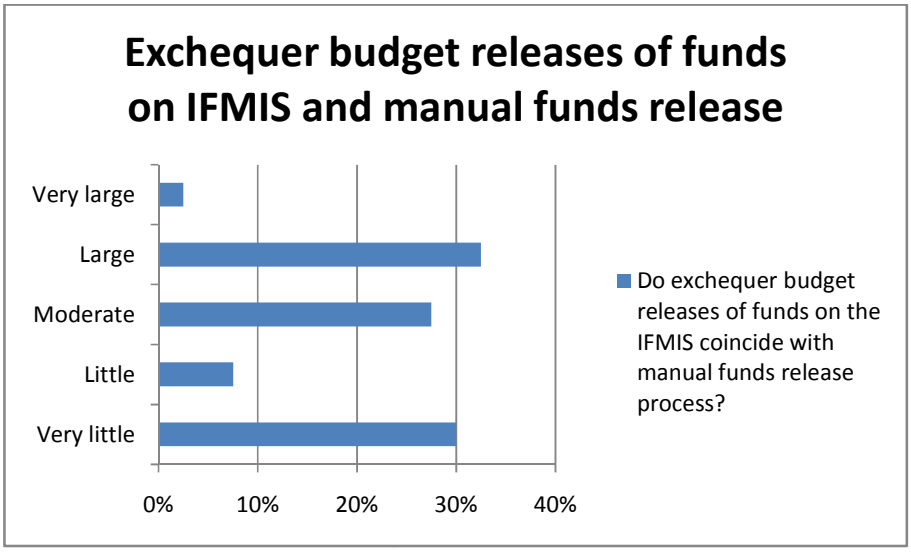

Figure 4 Exchequer budget releases of funds on IFMIS coincide with manual funds release

The analysis of the results on whether exchequer budget releases of funds on the IFMIS coincide with manual funds release process is shown in fFigure 4 above. The graph indicates that 23% respondents said that the exchequer budget release of funds on the IFMIS does not coincide with the manual funds release process.

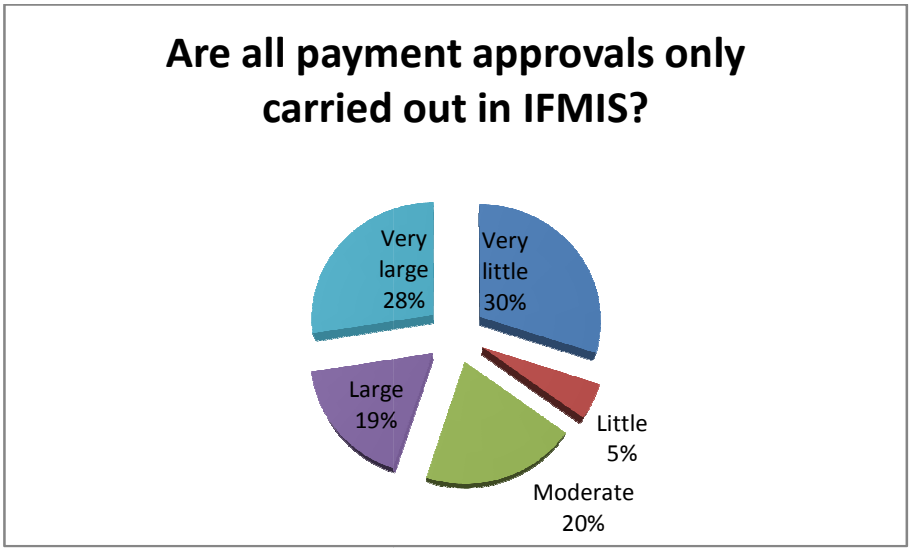

Figure 5 Payment approvals carried out in IFMIS

Figure 5 above has the has an analysis of the results on whether all payment approvals are only carried out in IFMIS and it indicates that 25% did not agree that all payments approval are only carried out in IFMIS. 28% agree to a very large extent that all payment approvals are carried out in IFMIS.

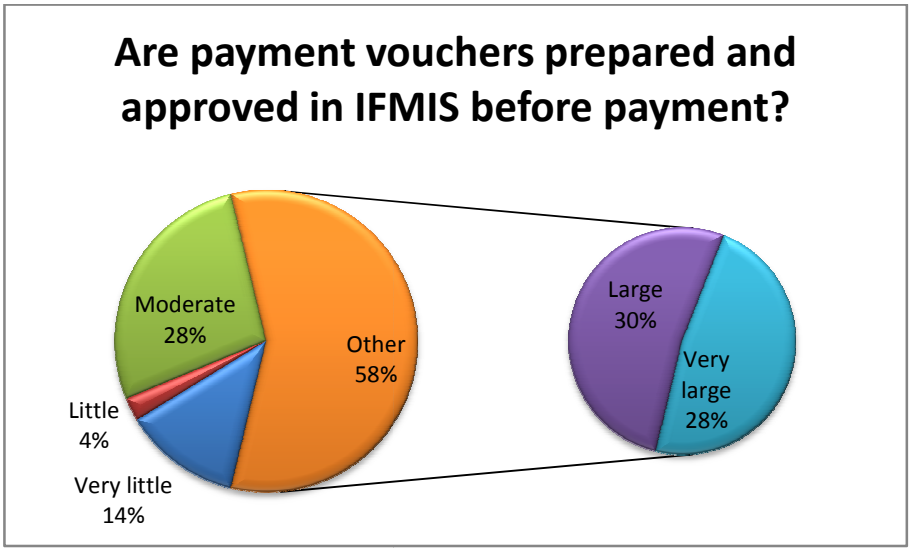

Figure 6 Are payment vouchers prepared and approved in IFMIS before payment

Figure 6 above is an analysis of whether payment vouchers prepared and approved in IFMIS before payment. From the chart above 59% agreed to a large extent and more that payment vouchers are prepared and approved in IFMIS before payment. The majority, 87% (28%+30%+28%) indicated moderately to very strongly that payment vouchers are prepared and approved in IFMIS before payment.

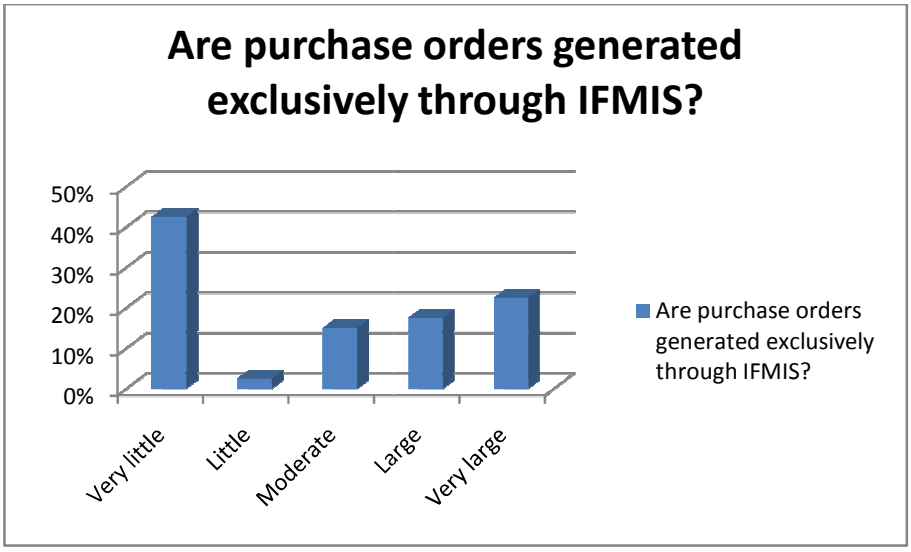

Figure 7 Are purchase orders generated exclusively through IFMIS

The analysis of the results on whether purchase orders generated exclusively through IFMIS is in figure 7 above. The results were evenly distributed with 45% (18%+25%+3%) indicating that purchase orders were either not or very little generated exclusively through IFMIS and 55% that they were moderately to very strongly generated exclusively through IFMIS.

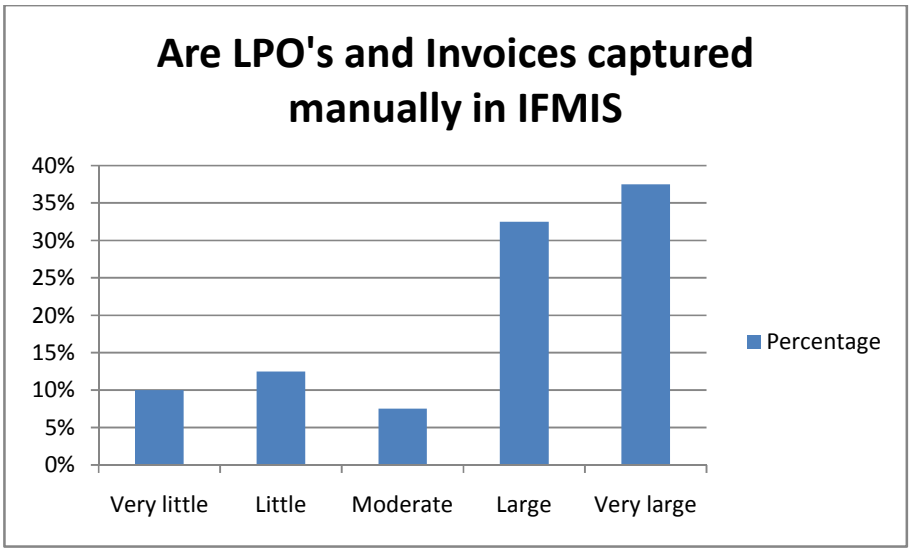

Figure 8 LPO's and Invoices captured manually in IFMIS

Figure 8 on the analysis of whether LPO's and Invoices captured are manually in IFMIS shows that a larger percentage of respondents 78% (8%+33%+38%) are moderately to are very large extent sure that LPO's and invoices were manually captured into the IFMIS system. Other challenges which constituted encountered which were only 3% of respondents were that the trail balance produced in IFMIS does not match the manual accounts and the budget implementation committee is not in place.

4.5 Determinants of IFMIS adoption

The study sought to establish the determinants of IFMIS adoption in the National Government in Kenya. Data was collected and the analysis of the results was as below:

4.5.1 Plan to Budget

The analysis of the results on the extent of use of the Plan to Budget module is shown below;

Table 11: Plan to Budget

Use of the module	Frequency	Percent
No	20	50
Yes	20	50
Total	40	100

Table 11 indicates that thought plan to budget is a new module under the reengineering, 50% used the Plan to Budget and only 50% did not.

4.5.2 Procure to Pay

The analysis of the results on the extent of use of the Procure to Pay module is shown below;

Table 12: Procure to Pay

Use of the module	Frequency	Percent
No	8	20
Yes	32	80
Total	40	100

Table 12 indicates that most respondents 80% used the Procure to Pay with only 20% who did not use it at all.

4.5.3 Revenue to Cash- CM

The analysis of the results on the extent of use of the Revenue to Cash module is shown below;

Table 13: Revenue to Cash

Use of the module	Frequency	Percent
No	12	30
Yes	28	70
Total	40	100

Table 13 indicates that 70% used the Revenue to Cash while 30% did not use it at all.

4.5.4 Records to Report

Records to Report was analysed using the regression model as seen below:

4.5.4.1 Records to Report Regression 1

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.494[a]	.244	.132	.394

a. Predictors: (Constant), StepbysteporApproach, ChangeMgtComm, CapacityBuilding, TopMgtcommit, StrongReliaICT

In the model summary table above the R value is 0.494, which indicates a low degree of correlation. The R Square value indicates that 24.4% of the dependent variable, “Records to Report", can be explained by the independent variables.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.700	5	.340	2.191	.078[b]
	Residual	5.275	34	.155		
	Total	6.975	39			

a. Dependent Variable: RecordstoReportGL

b. Predictors: (Constant), StepbysteporApproach, ChangeMgtComm, CapacityBuilding, TopMgtcommit, StrongReliaICT

The hypothesis that all the independent variables in the model have no effect on the Records to Report module is rejected because P value < 1.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.973	.164		5.930	.000	.640	1.307
	TopMgtcommit	.204	.178	.244	1.143	.261	-.159	.566
	StrongReliaICT	-.507	.228	-.579	-2.217	.033	-.971	-.042
	ChangeMgtComm	.035	.165	.038	.209	.835	-.301	.370
	CapacityBuilding	.369	.174	.437	2.121	.041	.015	.723
	StepbysteporApproach	-.196	.199	-.196	-.986	.331	-.601	.208

a. Dependent Variable: RecordstoReportGL

Strong, reliable and modern ICT infrastructure and capacity building are the only variables that have a significant effect on the adoption of records to report module. Strong, reliable and modern ICT infrastructure reduces the probability of adoption of records to report module by 58% (t=2.217). This unexpected result may be due to resistance to adoption of IFMIS, or the fact that most ministries run a parallel manual system. The researcher suggests further study to determine the reason why.

Capacity building increases the chance of adopting the records to report module by 44% (t=2.121). This is because with better understanding of the system through training, the users are able to adopt the module and use it for their daily tasks.

4.5.4.2 Records to Report Regression 2 (With Moderating Factors)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516[a]	.267	.106	.400

a. Predictors: (Constant), ISIFMISeasytouse, StepbysteporApproach, IFMISusefulProce, ChangeMgtComm, CapacityBuilding, TopMgtcommit, StrongReliaICT

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.861	7	.266	1.663	.154[b]
	Residual	5.114	32	.160		
	Total	6.975	39			

a. Dependent Variable: RecordstoReportGL

b. Predictors: (Constant), ISIFMISeasytouse, StepbysteporApproach, IFMISusefulProce, ChangeMgtComm, CapacityBuilding, TopMgtcommit, StrongReliaICT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.051	.191		5.507	.000	.662	1.440
	TopMgtcommit	.209	.182	.251	1.151	.258	-.161	.580
	StrongReliaICT	-.513	.233	-.586	-2.200	.035	-.988	-.038
	ChangeMgtComm	.094	.179	.103	.525	.603	-.271	.458
	CapacityBuilding	.332	.185	.393	1.792	.083	-.045	.709
	StepbysteporApproach	-.192	.202	-.192	-.949	.349	-.604	.220
	IFMISusefulProce	-.020	.137	-.023	-.148	.884	-.300	.259
	ISIFMISeasytouse	-.143	.150	-.163	-.956	.346	-.448	.162

a. Dependent Variable: RecordstoReportGL

After controlling with the moderating factors of perceived usefulness and perceived ease of use, strong, reliable and modern ICT infrastructure and capacity building still have a strong influence on the probability of adopting the Records to Report module.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study showed that most of the staff in the finance, accounts procurement departments were over the age group of 25 and above (95%). Undergraduate level education was most common at 45% with a minority (10%) having post graduate level education. Male to female ratio favoured males at 58%.

One of the objectives of the research was to determine the extent of IFMIS adoption by the National Government in Kenya. This was achieved by studying the use of the different modules. The use of public sector budgeting module showed that it had been well adopted with 80% having used it to some extent. The Purchase Ordering module had 76% use while Accounts Payable module has 83% having used it. Accounts Receivable module had 43% either who had not used it or used it a little and the General Ledger module was well used at 88%. Cash Management module had over 70% using it and Analytical tools module had 30% who did not use it.

The study sought to establish the challenges faced in the adoption of IFMIS in the national government in Kenya. Training of IFMIS had been conducted to 100% of respondents. The same was also seen with training materials where 98% reported provision of training materials. Over 90% have been informed how IFMIS will affect their current work practices and 95% say that IFMIS is stable with little or no down time. 83% are sure that IFMIS processes match with their manual processes and 73% said that all activities in the department are run within the IFMIS system. 23% respondents said that the exchequer budget release of funds on the IFMIS does not coincide with the manual funds release process. 25% did not agree that all payments approval are only carried out in IFMIS. 45% indicated that purchase orders were not exclusively through IFMIS. 78% are sure that LPO's and invoices were manually captured into the IFMIS system.

The regression analysis showed that the R value of 0.494 indicates a low degree of correlation. The R square value of 24.4% indicates the dependent variables can be explained in a very small part by the independent variables. The coefficient tables all show that some of the independent variables have a significant effect on the module Records to Report. Even with

moderating factors, the strong an reliable ICT infrastructure and Capacity building still had a significant effect on the module records to report-GL.

5.2 Conclusion

The study concludes that the implementation of IFMIS is affected by complex factors and the independent variables of top management support and commitment, human technical capacity and training, strong, reliable and modern ICT infrastructure, change management and phased implementation with frequent performance assessments though they are not significantly affecting IFMIS adoption, these factors are still important as most respondents indicated that they were satisfied with them.

Training was seen to be a very important factor in IFMIS implementation as well as availability of training materials, this was seen in both the data analysis and the literature from Alsheri and Drew (2010) and Rodin-Brown (2008). Having the users informed on how IFMIS will affect their current work was also seen from the study as important in ensuring the success in the implementation, this is because it will reduce resistance by the users and enhance acceptance of the new system, this should be moderated by the fact that the government works through policies from "above" and the leeway for the individual to implement or not to implement is limited by that factor. Whether or not IFMIS processes match the manual processes is also important since the closer the two processes, the more seamless the integration into the automated system. Most government systems are strictly controlled by a myriad of Acts, Regulations, manuals and Circulars as such changing a system may entail changing the law, this is an area the researcher suggests for further study.

Whether or not all activities are run from IFMIS was also seen to be an important factor. The more IFMIS is used the higher the chance of success as there will not be duplication of entries into a manual and electronic form and users will see the benefits of the system through reduced workloads.

5.3 Recommendations

In order to address the challenges if IFMIS implementation the researcher recommends that the National government needs to have a strong policy and legal framework supporting IFMIS. The system should be setup to ensure that the IFMIS processes strongly match with manual processes in place to minimize the need for any legislative interventions or to teach the staff

new ways of doing things on top of learning the new program. Note should be taken of the fact that this is recommendation does not negate the need where the change is to reduce wastage, increase efficiencies and eliminate graft amongst other evils.

There is need to ensure that all activities where possible are run within the IFMIS system to make it a true e-government system. The system should be designed to accommodate all financial transactions within the government to reduce waste, enhance record keeping, for planning and reduction of corruption.

There is need to ensure that the requisite infrastructure are in place especially in outlying areas out of Nairobi where ICT connectivity leave alone electricity availability is a real challenge. If the infrastructure cannot be put in place in the whole country, the result will be that it will be seen as an urban or Nairobi "project" while in the outlying areas it will be things as usual using the manual systems.

There also needs to be strong project implementation committees with a champion at each of the ministries coordinated by the national IFMIS secretariat. Finally challenges faced with manual input of records needs to be erased and the system needs to be implemented from the management or decision making level, down to the user level.

5.4 Limitations

The researcher faced limitations in data collection as some respondents felt the questionnaire should have clearly demarcated whether it is for management or users. Some users were reluctant to respond as they felt their areas of operation are confidential and needed higher authority to respond which due to time constraints the researcher was not able to get. Other limitations 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.

5.5 Further Study

The researcher suggested issues for further study on the following;

(i) The drivers/determinants that influence the adoption of the following IFMIS re-engineering modules; Plan to budget, procure to pay, and revenue to cash

(ii) The effect of IFMIS implementation on the legal, legislative and policy frameworks in place

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Dear respondent

I Stanley Conrad Miheso, student of University of Nairobi pursuing degree of Masters of Business Administration in Management Information Systems is carrying out a research study on "ADOPTION OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM (IFMIS) BY THE NATIONAL GOVERNMENT IN KENYA". Please help to fill the questionnaire, the information you will give will be used purely for academic purposes and will be treated with high degree of confidentiality, you are therefore requested to answer the questions fully and honestly.

Thank you for assistance

Instructions: Tick or Write in the space provided

SECTION A

1. Highest Level of Education attained:

   a. Below "O" Level[ ] b. Secondary[ ] c. Diploma[ ] d. Degree[ ] e. Postgraduate[ ]

2. Gender:

   a. Female [ ] b. Male [ ]

3. Age in years:

   a. Below 25 years [ ] b. 25-30 years [ ] c. 36-40 years [ ]

   d. 40-45 years [ ] e. Above 45 years [ ]

4. How long have you worked for the National Government?.....

5. Which department do you work in this organization?

   Finance/Budget [ ]

Accounts [ ]

Procurement/ Supply Chain Management [ ]

Others (specify)…….

SECTION B

Instructions: Comment the statement below by ticking the correct statement where necessary.

To what extent does your organisation use the following IFMIS features/modules?

(On the scale of 1-5, indicate 1-very little; 2-little; 3-moderate; 4-large; 5-very large)

FEATURES/MODULES	**1**	**2**	**3**	**4**	**5**
The Public Sector Budgeting					
Purchase Ordering					
Accounts Payable					
Accounts Receivable					
General Ledger (GL)					
Cash Management (CM)					
Analytical tools (Financial Analyzer and the Financial Statements Generator)					

SECTION C

Instructions: Comment the statement below by ticking the correct statement where necessary.

How much have the following important challenges affected you as concerns of IFMIS implementation?

(On the scale of 1-5, indicate 1-very little; 2-little; 3-moderate; 4-large; 5-very large)

FEATURES/MODULES	**1**	**2**	**3**	**4**	**5**
Have you been trained on use of IFMIS?					
Do you have training materials for IFMIS?					
Have you been informed how IFMIS will affect your current work practices?					
Is the IFMIS system stable (Down time)?					
Do IFMIS processes match with your manual processes?					
Are all activities in your department run within the IFMIS system?					
Do exchequer budget releases of funds on the IFMIS coincide with manual funds release process?					
Are all payment approvals only carried out in IFMIS?					
Are payment vouchers prepared and approved in IFMIS before payment?					
Are purchase orders generated exclusively through IFMIS?					
Are LPOs and Invoices manually captured onto the IFMIS system?					
Others (*please specify*)					

SECTION D

Instructions: Comment the statement below by a tick [√] on "YES" or "NO" where applicable.

Have the following IFMIS re-engineering features/modules been implemented in your ministry?

Plan to Budget	YES [ ]	NO [ ]
Procure to Pay	YES [ ]	NO [ ]
Revenue to Cash– CM	YES [ ]	NO [ ]
Records to Report – GL	YES [ ]	NO [ ]

SECTION E

Instructions: Comment the statement below by a tick [√] on "YES" or "NO" where applicable.

Have the following been implemented in the IFMIS system in your ministry?

Top Management support and commitment	YES [ ]	NO [ ]
Adequate project funding	YES [ ]	NO [ ]
Strong, Reliable and modern ICT infrastructure	YES [ ]	NO [ ]
Staff Facilitation and motivation	YES [ ]	NO [ ]
Active Steering and Technical committees	YES [ ]	NO [ ]
Change Management and Communication Strategies	YES [ ]	NO [ ]
Capacity Building	YES [ ]	NO [ ]
Legislation/ legal framework	YES [ ]	NO [ ]

Step-by-step or phased approach	YES [ ]	NO [ ]
Chart of accounts	YES [ ]	NO [ ]
Adoption of manual processes to IFMIS requirements	YES [ ]	NO [ ]

Instructions: Comment the statement below by a tick [√] on "YES" or "NO" where applicable.

Are the following motivating factors applicable in the IFMIS system in your ministry?

Is IFMIS useful to your work processes?	YES [ ]	NO [ ]
IS IFMIS easy to use?	YES [ ]	NO [ ]