EFFECT OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM ON PUBLIC EXPENDITUREMANAGEMENT IN KENYA

BY

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DECLARATION

I declare that this dissertation is my original work and has never been submitted elsewhere for award of a degree. Also I declare that the dissertation doesn't have material published by other authorswithout due referencing and author due acknowledgement.

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ABSTRACT

In the recent world, information systems have changed the traditional way of business management. Modern organizations have been adopting new financial management information systems to be in-line with the new technology. Introduction of IFMIS in the organization acts as a reform towards the governance, financial information and user accountability in the public sector. In the study on the effect of the implementation of IFMIS on public expenditure management by Kenyan government, the specific objectives were; to establish the effectof IFMIS procurement module on public expenditure management, to assess the effect of the IFMIS budgeting module on public expenditure management and to determine the effect of IFMIS accounting module on public expenditure management. The study sought to show how implementation of integrated system can assist management to reduce misuse of public resources through improved public expenditure management. The study adopted descriptive survey design and a sample of 103 respondents from a combined population of 140 drawn from five ministries in the National Governments using Multiple Regression model, Correlation coefficient and SPSS software. The analyzed data was used to make conclusions on the study findings. The study presented strong positive and significant relationship between IFMIS applications and the public expenditure management. This shows that IFMIS has greatly improved the management of public expenditure though the study results indicates that there is need for further integration of the system modules to enhance proper monitoring controls of public expenditure. The study suggested that adequate skills to be given to the system implementers.

Keywords: Module, public expenditure management, public resources, user accountability and financial management information systems.

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Notwithstanding input from various individuals to this thesis, I remain fully responsible for any mistakes that may be contained herein.

DEDICATION

This research paper will be dedicated to my daughter, my wife and my supervisors who have been inspiring me to continue hardworking. They have encouraged me to tackle any task with courage and all devotion. Without their love, support and guidance I would not have perfectly complete this research study.

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ACRONYMS AND ABBREVIATIONS

IFMIS   Integrated Financial Management Information System

PFR   Public Financial Reform

SIDA   Swedish International Development Agency

CIDA   Canadian International Development Agency

USAID   United States Agency for International Development

PFM   Public Finance Management

ICT   Information and Communication Technology

PEM   Public Expenditure Management

OECD   Organization for Economic Co-operation and Development

LPOs   Local Purchase Orders

MIS   Management Information Systems

DEFINITION OF TERMS

G-Pay- It is an electronic payment system used in both government and the Central Bank of Kenya to facilitate clients' payments (Government of Kenya, 2012)

E- Procurement system – It the use of integrated information systems to improve and link the supplier and the organization on the procurement sector (Government of Kenya, 2012).

E- Budgeting system – It the use of integrated information systems to improve on the budgeting sector (Government of Kenya, 2012).

Financial Management Information System– It the process of computerization of public expenditure management procedures right from the preparation of budgets, accounting and procurement processes and the financial reporting criteria (Timmons &Spanelli, 2007).

Integrated Financial Management Information System – It refers to computerization of public financial management processes from budget preparation and execution to accounting, procurement procedures and financial reporting (Timmons &Spanelli, 2007)

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the current world, organizations are struggling to survive in the new technology adoption in the global finance management sectors. They are trying to improve on their criteria of making managerial decisions to overcome the challenges associated with non-conformity with the new technology. Due to this, the modern organizations have been adopting new financial management information systems to be in-line with the new technology (Karim, 2011). The demand for business information has increasingly become huge and difficult to analyze. This prompts the organization to have an in-depth review on how to manage their information up to a point where it is utilized. Thus Financial Management Information System (FMIS) becomes appropriate to solve such issues. The system acts as a tool for efficient automated decision making (Chukwuma,Odinioha&Obara, 2013).

Developing countries view Financial Management Information Systems as a reform procedure with structured project approach and implementation cost (Laboke, 2015). The system has complex software used to run large organizations. These countries encouraged public expenditure management systems reforms so that the government operations can be fully automated. Laboke further stated that the system can be used to measure the organization performance in-terms of financial management and budgetary functions hence improved economic forecasting, planning and budgeting.

The MIS programs enable the organization to report their transactions in real time. This gives the management immediate status and action taken in case there are crises to prevent occurrence of losses due to delayed decision making process (Allen, Heurtebise&Tumbull, 2010). According to Dodd (2010), the Public Financial Management (PFM) reforms improve the economy in various sectors as it strengthens regulations, transparency and accountability. PFM reforms initiatives have been supported by various development partners who have worked closely with the developing countries to reinforce their financial information system which enhances consumer protection.

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According to Basu and Sharma (2010), a good financial management system entails bringing together adequate resources and allocating the same in the economy. The overall system focuses on all dimensions of resource generation, allocation and the management of expenditure. Public Financial Management System includes, improving revenue collection procedures, efficient management of debt and cash, proper planning and allocation of resources and effective monitoring and reporting mechanisms. Ghaffarzadeh (2015) states that, in the decision making perspective the Management Information System (MIS) ensures accurate, timely and updated information for better planning, control and other operational functions in the organization. He further stated that the integrated system also provides various options, to be relied by the decision makers during their complex data analysis like use of decision support system.

Innovation and adoption of Information Communication Technologies (ICT) has seen many governments interact globally for businesses; this has changed their accountability in the financial management sector Lee (2010) as cited by (Rokhman, 2011). It enhances the development countries to interact and trade with other developing countries for effective and efficient public financial management (Khan, Moon, Rho, Swar&Zo, 2012). Currently, E-government has become key strategy towards service delivery within the government. Its adoption in many nations has led to changes and developments in the public financial sectors (Raus, Liu &Kipp, 2010).

Chene (2009) asserts that in the recent times, developing countries have been exploring ways to modernize and improve public financial management through the introduction and implementation of Integrated Financial Management System (IFMIS). This is being done in order to enhance efficiency, accountability, transparency, data security and adequate financial reporting. Chene further states that IFMIS usually provides governments globally with various modules that can enhance financial functions including financial control, management and planning. The scope and operations of the system in various governments vary from one country to another but it represents some strategic reform procedure. IFMIS is a tool of the PFM which helps in monitoring and controlling the financial activities systematically. This in turn gives the management strength in financial decision making, reporting and other duties in the public sector (Hendriks, 2012).

According to Baloyi (2011), introduction of IFMIS in the organization acts as a reform towards the governance, financial information and user accountability in the public sector towards its stakeholders. It helps the public sector in strengthening and controlling the system for continuity, which later leads to advanced governments' financial systems and service delivery. The integrated system also includes financial package to enhance effectiveness and transparency of public resource management through computerized budgeting and accounting systems for the government. This includes various sub-systems (modules) like accounting, budgeting, cash management, e-procurement, human resource and debt management among other treasury systems. The modules assist in planning, processing and reporting on the use of public resources.

In budgeting it enables budget formulation, planning and execution so that there is efficient decision making on budgeting. The system enables management to account for the public resources and improvement of the effectiveness and efficiency of the public expenditure programs through tracking them in the system (Hove & Wynne, 2010). This in turn improves transparency and overall expenditure controls in the public financial management process.

Generally, the information system has great impact on the public sector by ensuring that electronic procurement assists the management to reduce administrative costs associated with the procurement procedures. The system if administered passionately, also ensures adequate controls in the procurement system which in turn curbs corruption in the public sector (Sgueo, 2015). The system enables electronic budgeting procedures in the public sector which ensures the management adheres to the overall adherence to the financial regulations and reporting standards in their decision making. In the accounting perspective the system has largely assisted in ensuring there is high detection of excessive payments and also fraudulent transactions through an automated identification of exceptions and the trend of suspicious activities (Hendricks, 2012). There is transparency and accountability of the automated financial systems in procurement, budgeting and accounting units of the public sector which ensures credibility of the information systems.

1.1.1   Global Perspective of Financial Management System

In USA, IFMIS was implemented so as to provide transparency and accountability of all financial transactions (Gathogo, Kahari&Wanyoike, 2015). The system was incorporated through the Department of Homeland Security (DHS) based on accounting and financial management system. The new system required adequate planning due to its complexity so as to guarantee efficient performance and achievement of its goals. In the early 1980s, Bouckaert, Scheers&Sterck (2005) assert that the Australian government made initiatives on the budget and management system more effective in the public sector. In the mid-1990s more focus was directed towards the integration and comprehensive reform strategy and the public sector started accrual basis reporting and budgeting system. The reforms were first implemented in 2000 giving more attention on management commitment and long-term planning, budgeting and control processes. In Japan the public finance management systems has made a lot of contributions to economy through implementation of various reforms in 2001 aimed at upgrading the system and meet the global economic requirements (Nishigaki, 2006).

In China the integrated system was initialized in 2010 by the Ministry of Finance but came into practice in 2011 through Accrual Government Comprehensive Financial Reporting Reform Plan. This was necessary due to huge financial transactions in both levels of the government which required advanced finance and accounts governance for transparency and accountability (Hang, 2015). The Accrual Accounting system was further improved in 2014 through publication of the Fiscal and Tax System Reform Plan which aimed at implementing a systematic PFM reforms in the China government. According to Hang, the idea of introducing a management system based on results in United Kingdom public sector was in place since 1980s to enhance efficiency in public expenditure and to ensure value for money. The public sector reforms enabled the shifting to a new resource (Accrual) based financial management system which replaced cash based Appropriation Accounts.

In South Africa, the process of IFMIS implementation was undertaken by the National Treasury so as to automate the government procedures for effective overall management and financial performance of the public sector (Hendricks, 2012). The implementation was carried out in three phases of master system planning, capacity architecture and development and implementation. In

Kosovo the implementation of IFMIS was successful and the donors like CIDA, SIDA and USAID played a very big role. The implementation team installed and configured some basic system architecture that would work for the organizational structure as per system requirements valuation. The process of rolling out the program included system demonstration for functionality to future users of the system, the senior managers and other staffs trainings. The system was rolled out to other governmental areas but it later started to face political challenges especially for the municipalities (Hodess, 2009).

For efficient implementation of the system in Nigeria, there is need to have a strong monitoring criteria (Ibrahim &Dauda 2014). This would overcome increased malpractices in the public sector hence transparency and proper accountability of the financial operations. In Tanzania IFMIS was introduced in 1994 and implemented to various government agencies in 1998 (Robin, 2009). The system was less complex due to the medium sized management and accounting package. The roll-out plan was initiated based on the incremental approach which was done in Accountant General Department among other ten government ministries then to all other ministries and departments.

1.1.2   Kenyan Perspective of Financial Management System

In Kenya IFMIS was introduced in 1998 but implemented to various government ministries in 2003. It was further extended to the county governments in 2012 through the IFMIS re-engineering process to improve the financial system (Kinyeki, Kipsang and Peterson (2008); Ndung'u, (2006). The implementation was spearheaded by the National Treasury to improve on the Soft Issues Bid Evaluation Tool (SIBET) and Enterprise Resource Planning (ERP) systems previously used as a financial management system (Imbuye, 2013). A department was created within the National treasury mandated to facilitate the implementation process. This was part of the PFM reforms in the public sector which could provide the government with real –time financial information especially for the managers (Muigai, 2012). It also helped the managers in the process of planning, budgeting and management of the resources effectively.

The implementation of automated public financial management information in national and county governments was aimed at improving the financial management in the public sector, through enhanced transparency, accountability and cost saving (Karanja&Ng'ang'a, 2011). The

process was initially faced by various challenges ranging from resource allocation to overall management of the system. Their study concluded that for an effective and efficient implementation of the system, the government needs to improve the infrastructures supporting it including resource capacitating.

Due to various challenges facing the integrated system, the National Treasury through the IFMIS department embarked on re-engineering the process in 2011. This was to improve on the current system to accommodate more modules beside general ledger, purchasing order and the account payable. These modules were not sufficient to integrate all the processes which resulted to manual processes (Chebet, 2013). The re-engineering processes introduced new improved modules like cash management module which enabled management exchequer, payments and other accounting processes in the public sector. Chebet further indicated that the re-engineering processes entailed re-engineering for business results aimed at modifying the business processes, plan to budget for budget implementation, procure to pay for automating procurement procedures and revenue to cash for cash management. The process also involved records to report for reporting all the transactions, ICT to support for ICT based infrastructures and communication to change addressing the change management. The increased fear of corruption and other public finance misappropriation would be eliminated through the integrated system implementation (Gathogo et al., 2015). The government of Kenya is further trying to improve on the public finance management through the recent introduction of electronic procurement in 2015 to improve public procurement system through transparency and accountability.

1.1.3 Public Expenditure Management (PEM)

PEM approach is mostly used in public sector budgeting to facilitate in planning so as to achieve some acceptable outcomes which include aggregate fiscal discipline, allocation efficiency and operational efficiency. The aggregate fiscal discipline entails the aligning of the public expenditures with the total domestic revenues and foreign borrowings. Allocation efficiency refers to matching the budgetary allocation (resources) with the required priorities in the country (Asian Development Bank, 2001). Operational efficiency entails the provision of the services to the public through which are reasonable quality and cost. In public finance management (PFM) process, manual control system is characterized by lack of accountability in government expenditure, hence introduction of integrated system to reduce unauthorized public expenditure

(Chado, 2015). The government structure is complex hence the provision of public services is cumbersome which brings technicality in budgeting to enhance PEM. Since the whole process of PEM focuses on the outcomes, it concludes that the expenditure is the production of the results required to achieve the anticipated outcomes.

Any internal borrowing to finance budget deficit in the government may lead to unnecessary expenditure due to private investment crowding occurrence (Ali, Ali, Hayat & Rabbi, 2013). A well designed IFMIS promotes a number of features to enable management of public expenditure through detection of excessive payments and frauds since the integrated system has automated personal identification numbers for purchase to detect theft (Chene, 2009). In budgetary process, PEM has great contribution to enable the sector formulate and manage the allocations in the aggregate budget (OECD, 2014).

1.2   Statement of the Problem

In Kenya, the public sector is responsible for management of public funds acquired through imposing tax. The funds enable provision of services to its citizens and improve economic growth and development in the country. The budget for the government financial year 2015/16 was estimated to be Kshs.1.3 trillion which was to be financed through taxpayers (Kinuthia&Lakin, 2016). This financial year 2016/17 the financial budget was estimated to be Kshs.2.3 trillion financed through taxpayers. This puts the government on task to formulate measure for management of the funds to achieve the target goal and reduce misappropriation. However, the public sector has been in crisis due to increased misuse of public funds through fraud and corruption. According to the Auditor General (2015), there was public expenditure amounting to Kshs.66.7 billion incurred for the financial year 2013/14 which was not fully accounted for and a further   Kshs.24.5 billion unapproved excess expenditure. This represents 4.6% and 1.7% respectively of the actual net expenditure of that financial year. The unaccounted amount was due to expenditure in the government without adequate authentication. Also the excess expenditure was due unapproved utilization of public expenditure in various ministries.

The integrated system seeks to ensure transparency and accountability in all the public units, that is, procurement, budgeting and accounting. This would enhance expenditure management in public sector due to establishment and coordination of the three systems. The proposed

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management information system should be fully organized to meet the user needs and any eventuality of the system failure (Ngibuini, 2005). Automating and linking these processes would result to a sound PFM as the managers in each unit can communicate easily in case of detection of fraud in the system. The linking of the three modules would also improve on public expenditure management since each unit will stick and adhere to the itemized budget estimate without diversion of finances to other unplanned expenditure. Misuse of public funds has been derailing government in its service delivery and economic development. According to Muigai (2012), IFMIS has led to great improvement on the public finance management in Kenya. He further emphasized on management commitment towards implementation of integrated system.

The study by Njonde and Kimanzi (2014), on effectiveness of IFMIS on the performance of the public sector in Kenya, analyzed variables like budgetary, financial reporting, internal control of which the study left a gap on linking the performance of the two variable on the public expenditure management. Chado (2015) on his study on the effects of IFMIS on the financial management in Kenya analyzed the impact of system implementation cash management and budgeting systems. Though the study found some improvement in security, reliability, accuracy, authenticity, and swiftness of enhanced financial systems, it did not further link the system modules in various units to ascertain their overall performance in PFM.

The integrated system infrastructure ought to be fully secured for information confidentiality which later guarantees efficient cash management. But the system implementation is hampered by its complications, security and reliability issues limiting cash management process (Odoyo et al., (2013).The studies only analyzed budgeting and cash management component of accounting module without considering other modules. The system has not been configured by the administrators to link procurement, budgetary and cash management modules together so that the managers in each unit can access information simultaneously and interact with each other on any suspicious transactions on the system. This would also enable faster decision making on such detections and reduce chances of unauthorized expenditure. Based on the above limitation and reviews of the past research studies done, there is inadequacy of study information on linking of the three modules to the public expenditure management which would give a transparent and well-coordinated processes to curb misappropriation of public funds. This study will seek to fill the knowledge gap.

1.3 Objective of the Study

The objective of the study covers the general objectives and specific objectives.

1.3.1 General Objective

The main objective of the research is to study the effect of integrated financial management information system on public expenditure management in Kenya.

1.3.2 Specific Objectives

(i) To establish the effect of IFMIS electronic procurement on public expenditure management in Kenya.

(ii) To assess the effect of IFMIS electronic budgeting on public expenditure management in Kenya.

(iii) To determine the effect of IFMIS cash management on public expenditure management in Kenya.

1.4 Research Questions

1. What is the effect of IFMIS electronic procurement on public expenditure management in Kenya?

2. What is the effect of IFMIS electronic budgeting on public expenditure management in Kenya?

3. What is the effect of IFMIS cash management on public expenditure management in Kenya?

1.5 Significance of the Study

1.5.1 To the Government of Kenya

As the Government of Kenya continues to improve its financial performance through various reforms like IFMIS re-engineering it will also be able to enforce system governing regulations for accountability and transparency. The study will also assist in identifying the gaps and how to improve on the financial performance and reduce the overall unnecessary expenditure and corruption in the country.

1.5.2   To the public and other stakeholders

The study will enable the public and other stakeholders to understand more on how public funds are utilized as accountability and transparency on public expenditure will be portrayed hence they will gain more confidence on the financial information of the government through IFMIS reporting.

1.5.3   To the researchers

The study will enable them to research further on IFMIS implementation and other related issues which will assist the government to improve on the public financial management.

1.6   Scope of the Study

The study results cover all staffs in the finance, procurement/Supplies chain, accounts and the senior administrators of the Ministry of Labour and East African Affairs, Ministry of Mining, Ministry of Transport and Infrastructures, The National Treasury and Ministry of Water and Irrigation.The officers/ respondents were those interacting daily with IFMIS system in their operations.

1.7   Basic Assumptions

It was assumed that all the officers involved in the implementation of the IFMIS have full knowledge of the system which enabled them give facts about the system. The system was assumed to be fully operational within the targeted institutions.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter covers theoretical literature review, the empirical literature review and the conceptual framework. The chapter also addresses the previous studies' gaps and the summary of the study.

2.2   Theoretical Literature

According to a study by Nkatha (2014) on ICT adoption and supply chain performance, there are various theories or models focusing on people's adoption and use of the ICT which determines the level of its acceptance and the outcome of the application of its application in an organization.

2.2.1   Diffusion of Innovations (DOI) Theory

The theory was presented for adoption by Rodgers who published it in 1962. It is divided into two initiations and the implementation stages. The theory focuses on the aspects of how, why and the rate at-which the IT ideas in any organization are adopted into its operations (Rogers, 1995). The implementation entails adoption, diffusion and recognition of the problem which led to search for a unique technology to solve it. Rogers (2003) identified three adoption stages which include initiation, adoption and implementation. Further Rodgers argued that innovations and products with greater compatibility and simplicity have high chance of adoption, easy implementation and usage.

The decision to adopt an innovation relies on social system perception and the five attributes of innovation which include; compatibility, complexity, detectable and piloting of the system. The adoption process is complex as different individual categories are involved (Gounaris&Koritos 2008). At the firm's level, the managers play a big role as they have to exercise good attitude towards the whole process. The internal structure of the firm also does play a key role in the adoption of innovations due to the expertise level of the individuals. Also the external factors of the firm contribute to the level of the whole system adoption (Rogers, 1995). The theory according to Rogers perceives that any advancement in technology is adopted in a firm's channels at a certain social system depending on its employee's motivation.

According to Li (2008), major strategies in adoption of electronic procurement in a firm need to be formulated at different levels so as to have full implementation of automated procurement procedures. This enables the management to have adequate controls on the entire procurements process. IFMIS in Kenya was an innovation adopted to improve the public service and curb misappropriation of funds in the government. Consequently, this required some adoption criteria for it to be acceptable by the government officials. This theory will enable the researcher in studying the adoption of E- procurement in the public sector.

2.2.2 The Instrumental Theory

The theory was developed by Bailey (1968), and focused on how well the public sector can use other budgeting systems in resource allocation to the overall budget execution. The theory articulates that the allocation of resources can improve managerial capacity toward budgetary processes in the public sector. According to Pettijohn and Grizzle (1997), an alternative overall budgeting systems controlled by the public sectors are not biased by the policy process. The new approach of the budget theory lays a foundation on how allocations are made in the public sector. The theory enables researchers to study the managerial capacity building on the new budgetary system which also includes theories of motivation, the relationships to the overall system and other administration issues.

Walker (1930) affirms that an organized and theoretically based knowledge are important during the budgetary decision making. The aim of the management in any organization includes system implementation and ensuring that their staffs are satisfied with the system adopted so as to improve organization performance through use of automated budgeting system. The aim of the management in any organization includes system implementation and ensuring that their staffs are satisfied with the system adopted so as to improve organization performance through use of automated budgeting system (Raja &Baral, 2015).The theory will enable the researcher understand how integrated system in budgeting by the managers and staffs will impact the overall public finance management and curb misuse of public funds in their organizations.

2.2.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

Due to increased use of information technology in various organizations, there is need for ICT to be accepted operating a firm so as to improve productivity of the employees in all sectors (Westland & Clark, 2000). UTAUT was developed by Davis, Fred, Gordon, B., Michael, G.,

Morris, Venkatesh and Viswanath in 2003, to merge other competing information technology acceptance models. The theory addresses four major sub-theories; performance expectancy which states that an individual believes new innovation can improve one's overall performance, effort expectancy theory, which measures extent at-which an individual believes that the innovation can be used easily. Third theory is social influence, where one makes assumption that those around should be in the frontline during implementation of information system innovations.

The model is a useful on the introduction of accounting information systems in an organization as it incorporates various variables influencing the individual reactions on information technology. Therefore, basic concepts in user acceptance to the new technology include; Individual reactions in using of the information technology, the intention to use it and the actual use of the technology (Davis et al., 2003). The ICT implementation and its success require various approaches and strategies hence the researchers dismantle, merge and create various theories in their research to come up with appropriate and acceptable theory conclusions (Yonazi, 2010). The theory addresses the level of acceptance of the integrated system in the organization perspective and the overall financial and accounting performance.

2.3 Empirical Review

This section discusses review of variables of the study which include independent variables; IFMIS- procurement module, budgeting module, accounting module and the dependent variable; public expenditure management.

2.3.1 IFMIS Electronic Procurement and Public Expenditure Management

In the present global economy, supply chain or procurement processes can be improved through value addition to enhance performance. This can be achieved through adoption and implementation of e-procurement by an organization which boosts efficiency in the supply chain processes (Wiengarten, Fynes, Humphreys, Chavezand&McKittrick, 2010). A positive relationship exists between e-procurement and supply chain information sharing in the organization. The system provides an online infrastructure which allows interaction with the

customers (Eng, 2004). The system also automates all procurement procedures including search, sourcing, negotiation, ordering, receipt and post-purchase review.

The main aim of the public procurement is to achieve value for money through an objective and transparent procurement procedure (Neupane, Soar, Vaidya& Young, 2012). However, poor planning in procurement has resulted to malpractices hence huge financial loss. E-procurement in public institutions has played a big role in reducing such anomalies through good governance in procurement sector which promotes public expenditure management (Bertot, Jaeger, Bertot&Gimes, 2010). IFMIS implementation in the public procurement sector is more sophisticated unlike in other ICT based government applications. This becomes a challenging process and calls for various implementations conditions to be fulfilled for long-term sustainable. IFMIS automates all procurement processes which include purchase requisition, quotation analysis, local purchase order (LPOs) generation, deliveries and good receipts. It also enhances transparency, compliance, increased performance and quality and economic development in the procurement sector globally (Subramaniam&Shaw, 2002).

In studying the extent to which E-procurement has been adopted in Kenya by public institutions, Orina (2013) presented various factors as the key determinant of the implementation of E-procurement in public institutions. The variables included resistance to change, staff skills, procurement policies and lack of commitment by the implementation managers. The respondents were 46 and the data was analyzed using descriptive method and factor analysis. The study concluded that E-procurement adoption level was low due to lack of integration with other systems and low usage in the electronic commerce. The study statistics also found that challenges like staff skills, resistance to change and lack of enthusiasm by staff were encountered in e-procurement readiness.

Mutui (2014) studied on the application of IFMIS on the procurement performance of the public sector in Kenya. The respondents were 48 and the variables analyzed in the study were top managers' support, employee commitment and capacity building. The study adopted descriptive research design and the multiple regression analysis was used to show the relationship between variables. The study findings showed that inadequate capacity building, lack of commitment of

the employees, system complexity and management challenges derailed the implementation of IFMIS by the public sector. The study further concluded that there is weak positive relationship between the analyzed variables and IFMIS implementation.

2.3.2 IFMIS Electronic Budgeting and Public Expenditure Management

InKenyabudgetary process is done through Medium-Term Expenditure Frameworks (MTEF) which sets the preceding fiscal year. Prior to introduction of IFMIS the budgetary process was carried out manually. A standalone application was introduced and distributed to all the ministries to facilitate budget planning processes. This was succeeded by a General Ledger budget module which could monitor the budget cycle electronically from requests for expenditure up-to the payments (Government of Kenya, 2010). The integrated system enables the managers and the decision makers in the public sector to have adequate information which is timely, accurate and consistent data for budgetary processes (Rodian-Brown, 2008). IFMIS has improved on the financial processes with regard to budgets through provision of financial reporting, budget execution and internal controls (Kimanzi&Njonde, 2014). This guarantees confidentiality and credibility of the budget through transparency of the budgetary information.

According to a study by Chado (2015) on the effects of IFMIS on the financial management in Kenya, the research adopted descriptive survey and target population was 18 Ministries. The variables in the study were cash management and budgeting systems, financial reporting systems, internal control systems and organization accountability. The study used both primary and secondary data. The study concluded that the cash management and budgeting systems, financial reporting systems and internal control systems, positively and significantly influence the financial management in the public sector by 1.053. Also, with constant independent variables, organizational accountability, cash management and budgeting and internal control systems would increase scores in financial management by 0.682, 0.701 and 0.599 respectively. The study further concluded that internal control systems contributed greatly in reducing misappropriation of public resources.

In the study on the effect of IFMIS on the financial management of public sector in Kenya, Muigai (2012) used both primary and secondary data. Descriptive statistics were analyzed using

regression analysis and unit root tests at various levels respectively. The key parameters analyzed in the study includes, government revenue, government expenditure, exports, population, inflation, purchasing power parity conversion rate, gross domestic product per capita, government transfers and government investment. The study found that 95% of the ministries in Kenya were using IFMIS and concluded that there is positive relationship of IFMIS and financial management in the public sector with a mean rate of 3.17.

According to a study conducted by Njonde and Kimanzi (2014), on effectiveness of IFMIS on the performance of the public sector in Kenya, the major variables analyzed included budgetary, financial reporting, internal control and the implementation of government projects. The study found that IFMIS implementation has been effective in government projects despite few internal control challenges. Also the study concluded that there was positive relationship between IFMIS effectiveness on public financial management and the independent variables analyzed.

Gathogo et al., (2015) in their study on assessment of factors affecting IFMIS implementation in the County governments of Kenya, they used a population of 70 respondents to analyze the variables of staff resistance and skill capacity in IFMIS implementation. The study adopted descriptive survey and census design. SPSS software was used to analyze the data and both descriptive and inference statistics were used in the data analysis. The study concluded that there is strong, negative and statistically significant relationship of *0.461* and *0.749* between IFMIS implementation and (staff resistance, capacity skills respectively). The study also found that governments lack of a well framed strategic plan, change management procedures and inadequate capacity building for system personnel limits system implementation, operation and its overall maintenance The study also concluded by showing the uncertainty of the county government on reducing the resistance to change.

2.3.3 IFMIS Automated Cash Management and Public Expenditure Management

Accounting processes in the public sector play an important role in the public finance management. Introduction of integrated system entails basic general ledger accounting applications comprising of comprehensive systems like accounts receivables and payments, revenue management among others (Rozner, 2008). The accounting information system

strengthens the efficiency of the accounting controls through timely reporting of the accounting processes. It improves the accounting records and reporting practices through a standardized integrated and upgraded computerized accounting system. The system can detect excessive payments, fraud and theft through system's unique features like automated identification exceptions, automated cross-referencing of personal identification numbers. This provide the management with timely alertness of malpractices for necessary action to be taken and prevent wasteful expenditure of the public funds

Odoyo et al., (2013), found that in the public sector, IFMIS implementation has been limited by inadequate commitment of the management. The study further indicated that the system implementation was highly hampered by its complications, security and reliability issues which limited efficiency in overall cash management. The reliability and flexibility of the integrated system has a positive effect on the cash management due to its accuracy, timely and consistence of financial information which guarantees confidentiality and efficiency (Chuma, 2014).

According to a study by Kimwele (2011) on the factors influencing implementation of IFMIS by Kenyan government, there were 42 ministries studied and 30 respondents were sampled. The variables studied were staff resistance, management commitment, and complexity of the system and skills of the system users. The arithmetic mean was used to analyze the results. The study concluded that the effective implementation of IFMIS is largely affected by sabotage, lack of top management support, inadequate capacitating and staff resistance. The study also concluded that 40% of the entire government ministries' staffs were not using IFMIS due to resistance hence negative impact on the effective use of the system.

2.4   Conceptual Framework

A conceptual framework refers to basis for the scope of the study. It shows the diagrammatic relationship of the variables in the study and their relationship (Orodho, 2008). It is a postulated model which classifies the study variables which include dependent and independent variables. According to Mugenda (2008), independent variable can also be referred to as predictor variable as it forecast the rate of variance in another variable. The dependent variable is one which the researcher aims to explain in a study. The dependent variable of the study will be public

expenditure management while the independent variable will be IFMIS procurement module, budgeting module and accounting module.

2.4.1 IFMIS Electronic Procurement Module

E-procurement provides an onlineinfrastructure which creates a framework of interaction between the government and its customers through a portal which enables the suppliers to quote for bids among other activities online (Chene&Hodess, 2009). Electronic sourcing andtendering are components of procurement procedure which is aimed at allocating suppliers of specific categories of goods. Electronic reverse auction ensures purchases from all the suppliers using information technology (Ginter et al., 2011). The adoption of an efficient public procurement system has great improvement on the procurement process of an organization. It enhances decision making process on the public procurement procedures in setting prioritized actions on the procurement (Hardy & Williams, 2011). The system ensures full procurement online, hence allowing for evaluation and contracting through the system. The system also enhances transparent of the management information system which is essential in monitoring of compliance in the procurement processes hence value for money (Boudijilda&Pannetto, 2013).

2.4.2 IFMIS Electronic BudgetingModule

Budgeting module is the system which automates all the processes of budgeting making from planning to execution. The system provides a computerized budgeting package which guarantees the public resource management and adequate accountability. It also allows frequent evaluation of the organization performance for decision making of the managers on budgetary allocations (Wainaina, 2014). The system also provides adequate link to all budgetary team for continuous review and actions (Ginter et al., 2011). The system improves confidence and credibility of the budget. The budget planning and execution using the available resources is also improved through timely and accurate data in budgeting processes and controls. The formulation of budget becomes realistic in the government due to data integration at various levels which guarantees better budget execution.

2.4.3   IFMIS AutomatedCash ManagementModule

Accounting module automates all the processes of cash management system till all the payments are made. According to Wainaina (2014), the module can vary from the general ledger accounting applications to a comprehension system entailing budgeting, accounts receivable or payable, cash management, commitment control, debt, assets and liability management among other applications. The system supports financial reporting, policy decision, fiduciary responsibilities and preparation of auditable financial statement (Rodian-Brown, 2008). It also can generate any financial reports like in balance sheet, costs reports, return on investment, cash flow projections among others (Diamond &Khemani, 2008). The generated reports can also be used managerial purposes like decision making, track status of debts and receivables, monitor financial management among other activities in the accounting unit. The module has further enabled confidentiality, integrity, availability and control of data which improves fraud detection and audit trail of all accounting processes as per the International Standards.

Independent variables   **Dependent Variable**

IFMIS E- Procurement
- Online infrastructure
- Procurement procedure
- Value for money

IFMIS E- Budgeting
- Budget formulation
- Budget execution
- Monitoring

IFMIS Automated Cash Management
- Accounting records
- Financial controls
- Fraud detection

Public Expenditure Management
- Revenues
- Allocations
- Expenditure
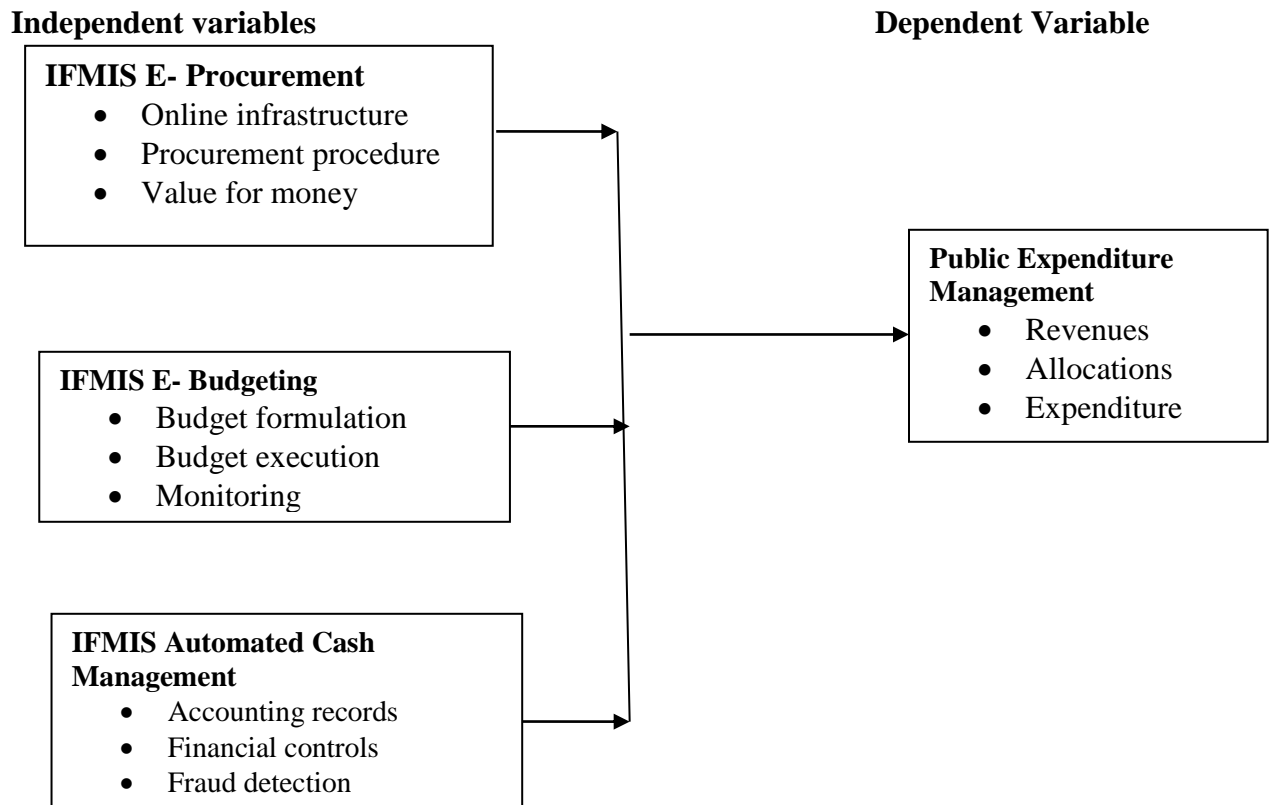
Figure 1:   Conceptual Framework

Source: Author (2017)

2.5   Research Hypothesis

Resulting from the review of literature and the conceptual framework above, the study hypothesized as follows;

H_{01}: IFMIS procurementmodule has no significant effect on public expenditure management

H_{02}: IFMIS budgetingmodule has no significant effect on public expenditure management

H_{03}: IFMIS automated cash managementmodule has no significant effect on public expenditure management

2.6   Research Gap

These are the limitations which prevent a researcher make adequate conclusions based on prior research studies. This gives the researcher incomplete information regarding the study being carried out hence no material decision can be made (Hopkins, 2013). From the previous research studies, there has been limited information on the IFMIS modules operations and their coordination in various units of the public sector. According to a study by Jena (2011) on how to improve PFM in India, there were no regulations on public procurement system hence the ministries would make procurements without any control hence accountable to nobody. The study did not provide a solution to such limitations which could lead to massive loss of public funds through unsystematic procedures. Phineas(2014) and Orina (2013) carried out a study on the implementation of procurement module in the public sector without consideration of the budgeting and accounting module which play key roles in the overall procurement processes. The issues of loss of public funds due non adherence to the system controls were not highlighted in the study. Also there is inadequate information linking the three key modules to one another and making recommendations on their performance toward public expenditure management. This study will fill the research gap through a review each of the IFMIS modules and link them to public expenditure management.

2.7   Summary of Literature Review

The theories on the adoption and implementation of IT are discussed include TAM theory developed by Davis and Richard (1989). The theory is further discussed in two parts of PU and

PEOU. Another theory is UTAUT developed by Davis et al., (2000) which focused on the user acceptability to new technology which has great contribution to the study on IFMIS. Lastly, there is DOI theory which broadly discusses on how, why and the rate at-which IT is adopted in the organization. Then the literatures on each of the variables follow which describes different IFMIS modules and their relationship with the public expenditure management. The modules discussed include procurement, budgeting and accounting. Their impact on application in public sector is discussed as addressed by various researchers and any challenge of the implementation. The empirical review of the past studies has shown great contribution of IFMIS in various public sectors. The studies have also shown positive feedback on the implementation of the integrated system though in a unit sector especially procurement unit. The studies inadequate coverage of the system implementation in all the key units in the government prompted to carry out this research study and try to fill the literature gap. This is through studying the links between the three IFMIS modules and public expenditure management.

CHAPTER THREE:RESEARCH METHODOLOGY

3.1   Introduction

The chapter introduces the basis of conducting the research study. It entails research design, study population and the sampling design, data collection instruments, data collection procedure, pilot testing, and the analysis and presentation of the data.

3.2   Research Design

Research design refers to settings on how to collect and analysis the data in-order to make conclusions in a study. The parametersused fordecision-making on what, when, by what means the study constitutes a research design (Orodho, 2008).The research design addresses critical issues which are critical to the research study like the purpose and location of the study, the nature of the investigation and unit of analysis among others. The design varies depending on the type of the study and the hypothesis formulated for testing. The type of research design may require collection of primary or secondary data or both for analysis (Bougie&Sekaran, 2010).

The descriptive survey design is adopted in the study to assist the researcher collect quantifiable data to be used for statistical interpretation on the targeted audience (Fluid Surveys, 2014). Descriptive survey design is a scientific investigative method involving collection of both qualitative and quantitative data. It enables researcher to have an in-depth investigation and full analytical review of how the events inter-relate (Saunders, Lewis &Thornhill, 2009). It describes records, analyzes and interprets the existence of certain occurrence (Kothari 2009). The design is also structured to ensure complete description of a given event with minimal biasness during data collection hence less errors on the interpretation of data collected.

3.3   Target Population

Population is defined as the large collection of all subjects from where samples are taken for assessment (Zikmund, Babin, Carr & Griffin, 2012). The units of observation, for this study is the staffs in five National government ministries fully implementing the IFMIS modules, that is, (Ministry of Labour and East African Affairs, Ministry of Mining, Ministry of Transport and

Infrastructures, the National Treasury and Ministry of Water and Irrigation).The ministries location gives the researcher an opportunity to collect data without much interruption and time wastage since they are situation on the same locality. The National Treasury was selected since it is the key driver of IFMIS in Kenya. The unit of analysis is theFinance officers, Procurement officers, Accountants and the AIE holders. The sampling frame is the list of the unit of population from which the sampling unit is obtained (Panneerselvam, 2006).

The study population for officers working in Accounts, Procurement, Finance and Administration units within the five ministries isobtained from human resource unit in each of the five Ministries. The AIE holders are included in the population study since they are the approvers of transactions in the system and act as managers of the finances in various government ministries. They also represent the Accounting Officer in their various departments regarding matters of public financial management.

3.4   Sample Size and Sampling Techniques

In most of the research study, it may be impossible to study the whole target population. This is due to factors like availability of resources among others. The researcher is required to use sampling and get a sub- group of the population in the study for detailed analysis of the information required (Lind, Marchal&Wathen, 2008). In some instances, census technique is recommended for small population of 200 or less despite the cost factor (Israel, 2012).

In this study, the target population is 155 government staffs at the Ministries' headquarters interacting daily with the IFMIS; hence census technique is used which picks the entire population as a sample. The sample is classified in different strata according to the department of the staffs. The sampling frame is in four strata of finance officers, supplies chain officers, accountants and the AIE holders. Table 3.1 shows the summary of respondents' in various units is indicated below.

Table 1:   Target population and sample size

Stratum	No. of Employees		Percentage (%)	Proportion Taken
Supplies Chain Officers	41		100	41
Accountants	54		100	54
Finance Officers	30		100	30
AIE holder	30		100	30
Total	**155**	**100**	**155**	

Source: Author (2017)

3.5   Instrumentation

A data collection instrument refers to techniques of gathering primary data to be used in a research study (Kothari, 2009). Various means can be used to collect the data which depends on resources availability factors which include; the costs, time among others depending on the researcher's study. The collection method can be in form of ordinary questionnaires, mailed questionnaires, observations and interviews (Orodho, 2008). The study used self-administered, structured and semi-structured questionnaire with both open-headed and closed parts. The questionnaire consists of specific and short questions that may be asked one in one by the interviewer or the respondents answer them on their own (Bryman, 2012). According to Cooper and Schindler (2011), the research study questions should be directly related to the research questions. The researcher then classifies the degree at-which the respondents agree or disagree with the underlying issue in the questionnaire.

3.6   Data Collection Procedure

Data collection procedure refers to gathering of information regarding a specific study in order to prove some facts (Kombo& Tromp, 2009). The study uses both primary and secondary data of-which the primary data is used to obtain general information of the IFMIS and its effect on

public expenditure. The data is collected using structured and semi-structured questionnaire. The questionnaires are administered using drop and pick later method to the respondents. An introductory letter for approaching the respondent will be obtained from the University. The secondary data is obtained from the previous reports and scholarly articles from other researchers on IFMIS implementation since enrolment by the government ministries.

3.7   Pilot testing

This is the study carried out to determine the reliability and validity of data collection instruments and other aspects of the study to be utilized in data collection (Zikmund, Babin, Carr & Griffin, 2010). Through pilot tests, question contents, wordings, and sequence patterns issues are discovered and rectified before actual data collection. It can also be explained as the study test carried out to detect weaknesses in design, instrumentation and provide proxy data for selection of the probability sample (Cooper & Schindler, 2011). Pre-testing procedure don't, have any variance from that used during the actual data collection in the study. According to Mugenda&Mugenda (2003), pre-tests should be of small size, about 1% to 10% of the target population. In this study, the pre-test is done on 10% of the entire sample size which is equivalent to 15 respondents.

3.7.1   Reliability of Data Collection Instruments

Reliability refers to the magnitude a measuring instrument gives same results every time it is used. It can also be defined as the consistency or stability of measurement over a variety of a given situation where the yield is the same outcomes (Bollen, 1989; Abbott & McKinney, 2013). Various methods to estimate the reliability include, internal consistency, inter-rater reliability, split-halves, alternate forms and test-retest reliability (Drost, 2011). The studyuses internal consistency technique which usesCronbach' alpha. The alpha measures the consistency in an instrument and questions on how well a set of items can be used to measure a given characteristic within the test. The test is internally consistent if the reliability estimates are based on average inter-correlations among all single items in a test. The value of reliability test using Alpha should not be less than 0.7 according to Pallant (2010).

3.7.2   Validity of Data Collection Instruments

The validity of the data is the degree to which a particular instrument measures what it's meant to measure (Mugenda, 2008; Bryman, 2012).The validity has three sections of construct, internal and external validity. The study will adopt construct validity which defines how well you translated an idea, concept or a behavior into an actual operation. (Drost, 2011; Trochim, 2006). Construct validity tests whether a measure of a concept strongly relate with another measure that it should strongly correlate with and strong negatively related with measures of concepts which it should not agree with (Abbott and McKinney, 2013).   The construct validity is the data collection criterion which is the primary data collection from the IFMIS implementers in the Ministries. The external validity is done through study findings applications and the internal validity is achieved through the combination of theoretical and empirical research of the existing theories of IFMIS implementation.

3.8   Diagnostic Tests
3.8.1 Multi-collinearity
The data was tested for multicollinearity to establish the extent at-which the given variable is used to predict the others with a given degree of accuracy in a multiple regression model.

3.8.2   Homoscedasticity
This test was carried out to determine if the error term is constant across all values of the independent variables.

3.8.3   Normality
A test of normality using normality plot of regression standardized residual of the variables was carried out.

3.9   Data Analysis and Presentation
Data analysis is the manipulation of collected data to determine its consistency and summarizing the relevant information acquired during the research (Zikmund et al., 2012). The study will be based on both qualitative and quantitative data which will be checked for accuracy and completeness. The analysis of the data from the field is done using SPSS version 22.0 programs.

The arithmetic mean and the standard deviation are used to interpret the outcome in the descriptive statistics. Correlation analysis is used to test the existence of high correlation between the variables. The coefficient of determinant (R^2) is used to analyze the extent or proportion of variance in dependent variables predictable from independent variable. This study will use multiple linear regression models to test the relationship between the variables where the public expenditure management represents dependent variable and procurement, accounting and budgetary modules represent independent variables. The analyzed data is presented using tables, graphs and charts. The following multiple regression model is used;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where,Y is dependent variable, which is the public expenditure management,

β_0 - is the constant/ intercept

β_1, β_2, β_3 are the Beta coefficients of independent variables

X_1, X_2 and X_3 are variables representingIFMIS procurement module, IFMISaccounting module and IFMISbudgetary module respectively.

ε − Is the error term

CHAPTER FOUR:

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

In this chapter, presentation of research findings and discussions are demonstrated using the data gathered from the field. The main objective of the study was to establish the impact of implementation of integrated financial management information system on public expenditure management in Kenya. The process of data collection was through questionnaires being the collection instrument and later the data summarization was done using descriptive statistics entailing use of frequency tables, percentages, mean and the standard deviation.

4.2 Response Rate

The total number of questionnaires distributed was 140 out of which 103 were returned hence a response rate of 74%. The rate according to Mugenda and Mugenda (2003) is above 70% which is a good representation of the population under study. The findings of the response rate are demonstrated below in the Figure 4.1.
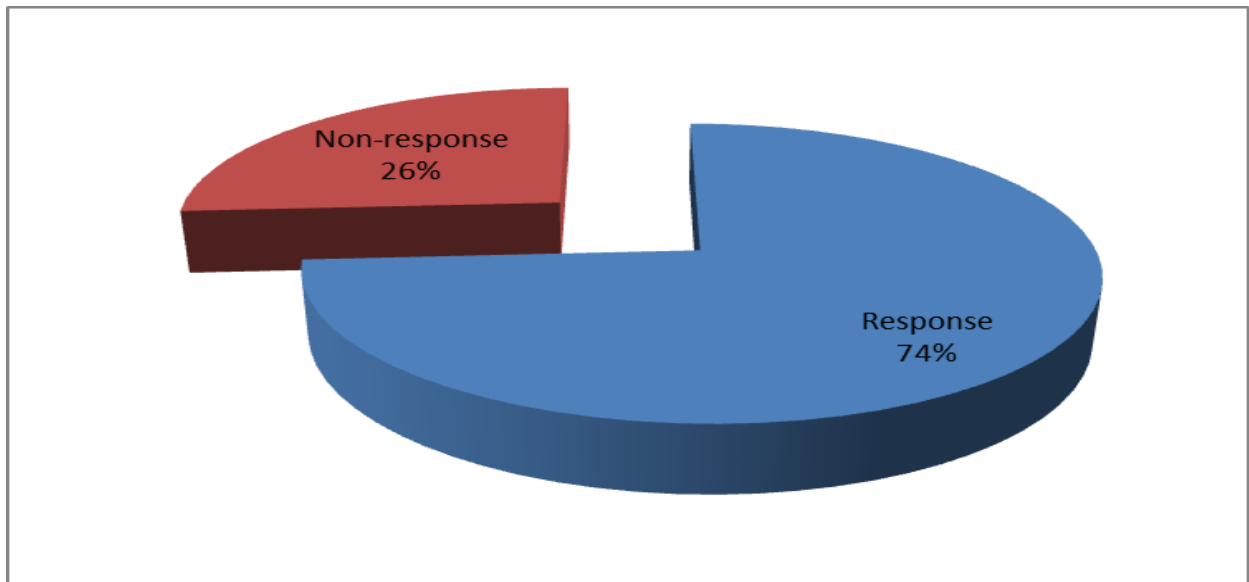
Figure 4.1 Response Rate

Source: Author (2017)

4.3   Internal Consistency Tests

The study tested the data for internal consistency using Cronbach's Alpha test and the results are displayed in table 4.1 below. From the table, electronic procurement had a Cronbach's alpha value of 0.818, electronic budgeting had Cronbach's Alpha of 0.820 and the automated cash management had a Cronbach's Alpha of 0.801.These results meant that all the key constructs in the study had alpha values greater than 0.7 and hence met the internal consistency requirement (Pallant, 2010). The overall scale of the instrument was 0.905 which meant that the instrument was reliable.

Table 4.1: Item-Total Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Electronic Procurement	8.4272	.642	.749	.818
Electronic Budgeting	8.4434	.544	.743	.820
Automated Cash Management	8.4239	.564	.760	.801
Overall Instrument Scale				.905

Source: Author (2017)

4.4   Demographic Information

Table 4.2 displays the gender of the employees in each department and 61.2% of the employees were male while 38.8% were of females. This shows that there are more male employees working in those departments than female employee. This may be contributed due to the fact that there is application of one-third rule in the employment of public officers (National Council for Law Reporting, 2007). Majority (45.6%) of the respondents were in the age bracket of between 41-50 years, 42.7% were in the age bracket of 31-40 years, while a few (11.7%) were over 50 years. This implies that majority of the employee employees were in the mature age bracket and would be willing to accept technological changes. Majority (80.6%) of the respondents worked in the Ministry/ department for less than three years,15.5% worked between 4 years and 6 years while a few (3.9%) represent those officer with experience of above 7 years in the ministry. The few years of work in the ministry may be occasioned by the fact that most of them deal with public finance which requires a lot of integrity hence frequent transfers.

Majority (34%) of the respondents worked in the Procurement unit, 23.3% worked in the Finance sector while a few (21.4%) worked in the Accounts and Administration units respectively. On the positions held, majority (52.4%) of the respondents were in managerial level while 47.6% were in non-managerial positions. In regard to the education levels of the officers, majority (52.4%) of the respondents had first degree, 31.1% had Masters, degree while few (16.5%) had a diploma qualification. This means the officers had good academic background to be able to understand the application of IFMIS.

Table 4.2: General Information

Variable	Frequency	Percent	Cumulative Percent
What is your gender			
Male	63	61.2	61.2
Female	40	38.8	100.0
What is your age			
21-30yrs	1	1.0	1.0
31-40yrs	43	41.7	42.7
41-50yrs	47	45.6	88.3
Above 50yrs	12	11.7	100.0
Years worked in the Ministry			
1-3yrs	83	80.6	80.6
4-6yrs	16	15.5	96.1
7yrs and above	4	3.9	100.0
Indicate your department			
Finance unit	24	23.3	23.3
Procurement unit	35	34.0	57.3
Accounts unit	22	21.4	78.6
Administration unit	22	21.4	100.0
Position held			
Managerial	54	52.4	52.4
Non managerial	49	47.6	100.0
Education level			
Diploma	17	16.5	16.5
Bachelor's Degree	54	52.4	68.9
Master's Degree	32	31.1	100.0
Total	**103**	**100.0**	

Source: Author (2017)

4.5　Frequency of use of IFMIS Components

On the frequency of IFMIS applications in the public sector, all the respondents in various units agreed unanimously that they were aware of the three IFMIS components and they were fully using it in their work place. On the implementation of IFMIS towards public expenditure management, majority of the respondents agreed that the public administration had high commitments towards reduction of the public expenditure; there were sensitization programs on IFMIS users about public expenditure management. Also they agreed that use of IFMIS has contributed towards public expenditure management in the financial sector.

4.6　IFMIS E-procurement and Public Expenditure Management in Kenya

The study sought to determine the effect of e-procurement on public expenditure management and results presented in Table 4.3. On the provision of adequate IFMIS application resources, majority (93.2%) of the respondents agreed that the government is committed to providing support for implementation of IFMIS in procurement while a few (5.8%) remained neutral. This shows that there is high commitmentby the government in ensuring IFMIS is running smoothly in all the departments.The respondents were required to give their views about E-procurement improving the supply chain planning and the results are shown in Table 4.3. Majority (93.2%) of the respondents agreed,(5.8%) remained neutral while a few (1%) disagreed that the system has greatly improved the procurement planning processes in the government. This is an indication that the public sector is making a great milestone in improving the procurement plans which are critical in the supply chain management processes.

On the question of E-procurement being linked to other IFMIS modules, the results are shown in Table 4.3. Majority of the respondents (38.8%) remained neutral, 35.9% of the respondents agreed while a few (25.2%) disagreed that E-procurement has been fully linked to other IFMIS modules. This meant that the public sector has not fully linked E-procurement with other IFMIS modules within a given department for the purpose of control measures.

In Figure 4.2, majority of the respondents (95.1%) agreed that E-procurement has greatly improved the procuring processes in the government, 3.9% remained neutral while a few (1%)

disagreed. This was interpreted to mean that transparency in public procurement is improving hence adding value to procurement unit.
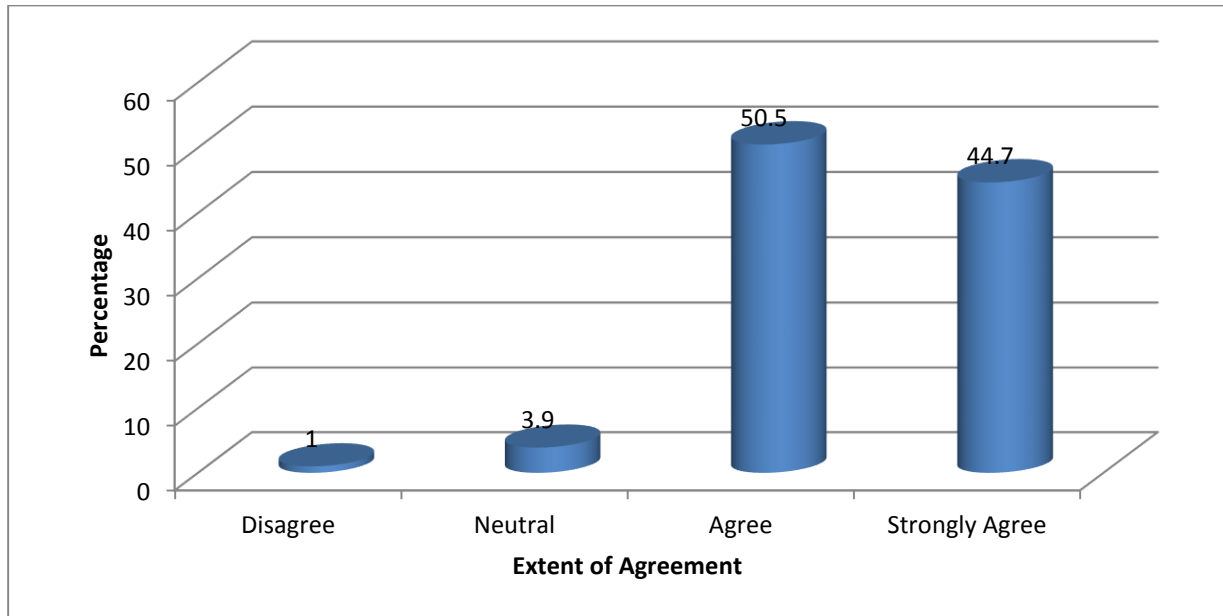
Figure 4.2: E-procurement has enhanced transparency in the Procurement process

Source: Author (2017)

On the effect of IFMIS implementation versus expenditure, Table 4.3 shows that majority of the respondents (94.2%)agreed that E-procurement has reduced unplanned procurement and also added value to the procurement in the government while a few (5.8%) remained neutral. This meant that implementation of IFMIS had led to reduction misuse of public fund through unplanned procurement. On automation of procurement processes presented in Table 4.3, majority (95.1%) of the respondents agreed that E-procurement has reduced amount spent to procure unnecessary goods and services in the government hence reducing entire procurement expenditure, 3.9% remained neutral while a few (1%) disagreed. This implied that adoption of IFMIS can lead to reduction of unnecessary procurement expenditure in the public sector.

Majority (90.3%) of the respondents agreed that linking of E-procurement with other IFMIS modules can reduce unauthorized expenditure in the public sector especially in the procurement sector, 8.7% remained neutral while a few (1%) disagreed as shown in Table 4.3. The research study interpreted this to mean that there is need to link modules with each other for monitoring

purposes with specific level of access for each administrator. Therefore the modules for procurement, budgeting and cash management should be linked and a central administrator appointed to manage the system.

In Table 4.3, majority (90.3%) of the respondents agreed that E-procurement has improved service delivery towards the customer on public procurement and they also believe that the system has added value while a few of respondents (9.7%) remained neutral. This shows that there is great impact of IFMIS on the entire stakeholder's of the procurement sector as a result of automating the supply chain especially to the suppliers who can fill their quotations online. On controlling the quality of supplies, majority (89.3%) of the respondents agreed that IFMIS has improved on the quality of the supply made in the government, 8.7% remained neutral and a few (1.9%) disagreed as indicated in Table 4.3 below. This indicates that the system has enabled high level monitoring criteria resulting to delivery of high quality goods and services in the public sector reducing sub-standard deliveries.

The results in Table 4.3 shows that amongst the elements of IFMIS procurement module, the element likely to affect public expenditure management to a great extent were; Linking of the E-procurement with other units' modules to reduce misuse of public fund, the second was that adoption of IFMIS had reduced expenditure on unplanned procurement leading to improved quality of procurements done and third, it was observed that that E-procurement had enhanced transparency in the procurement process.

Table 4.3: Implementation of E-procurement and Public Expenditure Management

Response	Frequency	Percent	Valid Percent
The Ministry has provided adequate resources for implementation of IFMIS in procurement			
Disagree	1	1.0	1.0
Neutral	6	5.8	5.8
Agree	57	55.3	55.3
Strongly Agree	39	37.9	37.9
IFMIS procurement module has improved the supply chain planning in the Ministry			
Disagree	1	1.0	1.0
Neutral	6	5.8	5.8
Agree	53	51.5	51.5
Strongly Agree	43	41.7	41.7
The Ministry has linked E- procurement to modules used in other units			
Strongly Disagree	6	5.8	5.8
Disagree	20	19.4	19.4
Neutral	40	38.8	38.8
Agree	20	19.4	19.4
Strongly Agree	17	16.5	16.5
E-procurement has enhanced transparency in the Procurement process			
Disagree	1	1.0	1.0
Neutral	4	3.9	3.9
Agree	52	50.5	50.5
Strongly Agree	46	44.7	44.7
IFMIS has reduced expenditure on unplanned procurement			
Neutral	6	5.8	5.8
Agree	50	48.5	48.5
Strongly Agree	47	45.6	45.6
Total	**103**	**100.0**	**100.0**

Source: Author (2017)

On automation of procurement processespresented in Table 4.4 below, 53.4% agreed and 41.7% strongly agreed that E-procurement has reduced amount spent to procure unnecessary goods and services in the government hence reducing entire procurement expenditure. This implied that there is reduction of the entire procurement expenditure in the public sector as a result of adopting IFMIS proper procurement planning.

On the linkage of E-procurement with other modules, 64.1% strongly agreed and 26.2% agreed that linking of E-procurement with other IFMIS modules can reduce unauthorized expenditure in the public sector especially in the procurement sector. The study interpreted this to meanthat there is need to link modules with each other for monitoring purposes with specific level of access for each administrator. Therefore the modules for procurement, budgeting and cash management should be linked and a central administrator appointed to manage the system.

According to the response in Table 4.4, most of the respondents (57.3%) agreed and 33.0% strongly agreed that E-procurement has improved service delivery towards the customer on public procurement and they also believe that the system has added value to the

publicprocurement. This shows that there is great impact of IFMIS on the entire stakeholder's of the procurement sector as a result of automating the supply chain. On controlling the quality of supplies 55.3% agreed and 34.0% strongly agreed that IFMIS has improved on the quality of the supply made in the government as indicated in Table 4.4 below. This indicates that the system has enabled high level monitoring criteria resulting to delivery of high quality goods and services in the public sector reducing sub-standard deliveries.

Table 4.4: E-procurement and Public Expenditure Management Continued

Response	Frequency	Percent	Valid Percent
Automation of procurement processes has reduced the entire procurement of goods hence improved public			
Disagree	1	1.0	1.0
Neutral	4	3.9	3.9
Agree	55	53.4	53.4
Strongly Agree	43	41.7	41.7
Linking of the E- procurement with other units' modules can reduce misuse of public fund			
Disagree	1	1.0	1.0
Neutral	9	8.7	8.7
Agree	27	26.2	26.2
Strongly Agree	66	64.1	64.1
The ministry's customers believe that use of IFMIS improves service delivery and adds value			
Neutral	10	9.7	9.7
Agree	59	57.3	57.3
Strongly agree	34	33.0	33.0
The system has enabled the government to control the quality of supplies made hence value for money			
Disagree	2	1.9	1.9
Neutral	9	8.7	8.7
Agree	57	55.3	55.3
Strongly Agree	35	34.0	34.0
Total	**103**	**100.0**	**100.0**

Source: Author (2017)

Using a mean analysis the study sought to rank and describe the IFMIS procurement module elements that impacted on public expenditure resulting in Table 4.5 below. The descriptive statistics scores in Table 4.5 shows that the maximum response was 5 and the minimum response was 3, which fell within the Likert scale instrument adopted in Appendix I. The mean analysis values ranged from 3.21 to 4.53 indicating that the respondents were either neutral or agreed to a great extent or a very great extent with the statements relating to IFMIS procurement module. The item with the highest mean score was;Linking of the E-procurement with other units' modules can reduce misuse of public fund (mean score=4.53 and standard deviation=0.698), this was followed by, IFMIS has reduced expenditure on unplanned procurement and has improved quality of procurements done (mean score= 4.40 and standard deviation of 0.600), E-

procurement has enhanced transparency in the procurement process (mean score=4.39 and standard deviation of 0.614), automation of procurement processes has reduced the entire procurement of goods hence improved public expenditure (mean score=4.36 and standard deviation=0.608), IFMIS procurement module has improved the supply chain planning in the Ministry (mean score=4.34 and standard deviation=0.635), The ministry's customers appreciate and believe that use of IFMIS in the public procurement processes lead to improved service delivery and value addition to the government (mean score=4.23 and standard deviation=0.614) and The Ministry has linked E- procurement to modules used in other units (mean score=3.21 and standard deviation=1.117).

These results show that amongst the elements of IFMIS procurement module, the element likely to affect public expenditure management to a great extent were; Linking of the E-procurement with other units' modules to reduce misuse of public fund, the second was that adoption of IFMIS had reduced expenditure on unplanned procurement leading to improved quality of procurements done and third, it was observed that that E-procurement had enhanced transparency in the procurement process.

Table 4.5IFMIS E-procurement and Public Expenditure Management

Statement	N	Minimum	Maximum	Mean	Std. Deviation
Linking of the E- procurement with other units' modules can reduce misuse of public fund	103	2	5	4.53	.698
IFMIS has reduced expenditure on unplanned procurement and has improved quality of procurements done	103	3	5	4.40	.600
E-procurement has enhanced transparency in the Procurement process.	103	2	5	4.39	.614
Automation of procurement processes has reduced the entire procurement of goods hence improved public expenditure	103	2	5	4.36	.608
IFMIS procurement module has improved the supply chain planning in the Ministry	103	2	5	4.34	.635
The ministry's customers appreciate and believe that use of IFMIS in the public procurement processes lead to improved service delivery and value addition to the government	103	3	5	4.23	.614
The Ministry has linked E- procurement to modules used in other units	103	1	5	3.21	1.117
Valid N (list-wise)	**103**				

4.7   IFMIS E-budgetingand Public Expenditure Management in Kenya

An examination effect of E-budgeting and public expenditure management, majority of the respondents (96.1%) agreed that the system has improved on the budgetary processes in public sector compared to manual system, 2.9% remained neutral while a few (1%) disagreed. Therefore this indicates that the government has upgraded in rationalizing the budget as per the requirements of various public provisions hence quality budgeting criteria.
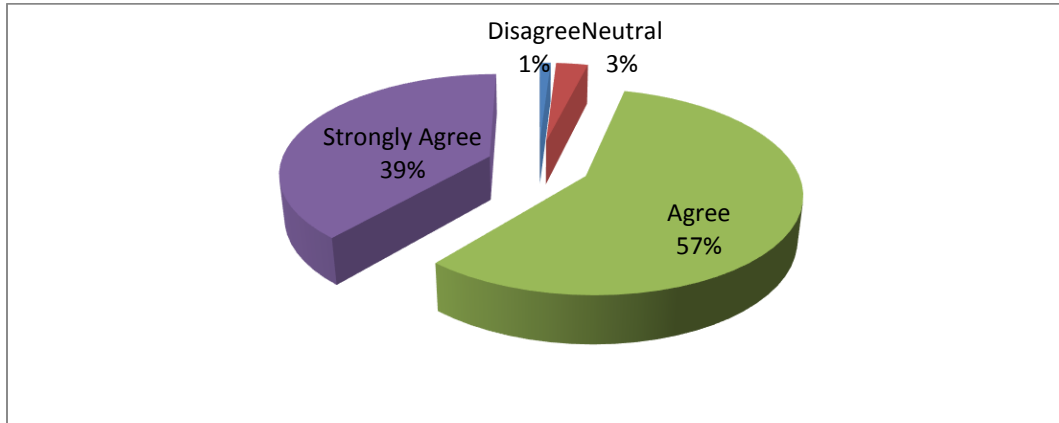
Figure   4.3: Electronic Budgeting Improves the Initial Budget Processes in the Ministry_Source: Author (2017)_

On the question of electronic budgeting enhancing transparency in decision making and the process of budgeting, the results in Table 4.6 show majority(89.3%) of the respondent's agreed that E-budgeting has enhanced transparency on decision making of budgetary processes while a few (4.9%) remained neutral. This shows that the system has enhanced critical decision making processes by the budget managers in the public sector.In terms of provision of adequate resources for implementation of E-budgeting by the Ministrymajority (88.4%) of the respondents agreed that the government has adequately provided resources for implementation of E-budgeting, 7.8% remained neutral while a few (3.9%) disagreed. This meant that the government has laid down good infrastructure in implementation of E-budgeting and the entire system.

The response in Table 4.6 shows that majority (95.1%) of the respondents agreed that the system has enabled the budget managers to make appropriate decision on the key activities while (4.9%) remained neutral. This shows that the system has enhanced implementation of key projects in the public sector hence quality service delivery. Also emanating from Table 4.6, majority of the

respondents (93.2%) agreed that the system has enhanced monitoring of specific allocations which has reduced pending bills in the public expenditure, 1.9% remained neutral while a few (4.9%) disagreed. The study interpreted this outcome to mean that the system has enhanced curbing of misallocation of public funds hence reduced pending bills.

Concerning timely implementation of government projects which enhances reduction ofun-utilized funds at the year-end, majority (93.2%) of the respondent agreed that IFMIS has greatly improved on how public funds are allocated and utilized in projects and ensuring that all undertakings are completed at the end of financial year, 3.9% remained neutral while a few (2.9%) disagreed as shown in Table 4.6. This indicates that the system has/can ensure that projects timelines are guaranteed without inconveniences.

On the fact that linkage of E-budgeting with other units' modules, Table 4.6 below indicates that majority (97.1%) of the respondents agreed, 1.9% remained neutral while a few (1%) disagreed that linking of E-budgeting with other units' modules can/has improve monitoring on the Public Expenditure Management,. The study indicates that there is need to fully link these modules with each other to enhance expenditure monitoring by the management and ensuring specific level of access for each administrator. For an improved quality of financial performance in the Ministry, results in Table 4.6 shows that the system can reduce itemized budget misallocations where majority (92.2%)of the respondents agreed, 6.8% remained neutral while a few (1%) disagreed that the system has improved the quality of financial performance in public sector through adherence to item allocations. This shows that the system has curbed unauthorized shifting of a given project's allocation to another hence improved public financial performance.

On the issue of linking of electronic budgeting to other IFMIS modules, outcome in Table 4.6 shows that majority (41.7%) of the respondents remained neutral, 29.2% agreed while a few (29.1%) disagreed that the system has been linked to other IFMIS modules for effective controls. This shows that the public sector has not fully linked E-budgeting with other IFMIS modules within a given department for the purpose of control measures.The results in Table 4.6 below shows that in the process of implementing e-budgeting, linking of electronic budgeting with other units' modules had the greatest effect on public expenditure management followed by

ability of the system to enhance appropriate decision making prioritizing activities and the role of electronic budgeting in enhancing transparency in decision making.

Table 4.6: IFMIS E-budgeting and Public Expenditure Management in Kenya

Response	Frequency	Percent	Valid Percent
Electronic budgeting has improved on the initial budget processes in the Ministry			
Disagree	1	1.0	1.0
Neutral	3	2.9	2.9
Agree	59	57.3	57.3
Strongly Agree	40	38.8	38.8
Electronic budgeting has enhanced transparency on decision making process in budgeting processes			
Neutral	5	4.9	4.9
Agree	54	52.4	52.4
Strongly Agree	44	42.7	42.7
The Ministry has provided adequate resources for implementation of IFMIS in budgeting			
Disagree	4	3.9	3.9
Neutral	8	7.8	7.8
Agree	49	47.6	47.6
Strongly Agree	42	40.8	40.8
The system has enabled the management to make appropriate decision on the priority activities			
Neutral	5	4.9	4.9
Agree	44	42.7	42.7
Strongly Agree	54	52.4	52.4
Allocation of adequate resources has reduced amount of pending bills on public expenditure			
Disagree	5	4.9	4.9
Neutral	2	1.9	1.9
Agree	52	50.5	50.5
Strongly Agree	44	42.7	42.7
The system has enabled timely implementation of projects and reduced the amount of un-utilized funds			
Disagree	3	2.9	2.9
Neutral	4	3.9	3.9
Agree	48	46.6	46.6
Strongly Agree	48	46.6	46.6
Linking of the electronic budgeting with other units' modules can/has improved monitoring			
Disagree	1	1.0	1.0
Neutral	2	1.9	1.9
Agree	33	32.0	32.0
Strongly Agree	67	65.0	65.0
IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance			
Disagree	1	1.0	1.0
Neutral	7	6.8	6.8
Agree	72	69.9	69.9
Strongly Agree	23	22.3	22.3
The Ministry has linked electronic budgeting to modules used in other units for effective controls			
Strongly Disagree	9	8.7	8.7
Disagree	21	20.4	20.4
Neutral	43	41.7	41.7
Agree	25	24.3	24.3
Strongly Agree	5	4.9	4.9
Total	**103**	**100.0**	**100.0**

A mean analysis oneffect of e-budgeting and public expenditure management resulted in the output in Table 4.7. From this table;linking of the electronic budgeting with other units' modules can improve monitoring on the public expenditure management had the highest mean score =

4.61, followed by the system has enabled the management to make appropriate decision on the priority activities during the budget implementation with a mean score = 4.48, electronic budgeting has enhanced transparency on decision making process in budgeting processes with a mean score = 4.37, electronic budgeting has improved on the initial budget processes in the Ministry with a mean score = 4.34, the Ministry has been able to allocate adequate resources to the planned projects reducing amount of pending bills on public expenditure mean score = 4.31, the Ministry has provided adequate resources for implementation of IFMIS in budgeting mean score = 4.25. This meant that in the process of implementing e-budgeting, linking of electronic budgeting with other units' modules had the greatest effect on public expenditure management followed by ability of the system to enhance appropriate decision making prioritizing activities and the role of electronic budgeting in enhancing transparency in decision making.

Table 4.7: IFMIS E-budgeting and Public Expenditure Management in Kenya

Statement	N	Minimum	Maximum	Mean	Std. Deviation
Linking of the electronic budgeting with other units' modules can improve monitoring on the Public Expenditure Management.	103	2	5	4.61	.581
The system has enabled the management to make appropriate decision on the priority activities during the budget implementation	103	3	5	4.48	.592
Electronic budgeting has enhanced transparency on decision making process in budgeting processes.	103	3	5	4.38	.579
The system has enabled timely implementation of government projects hence reduced the amount of un-utilized funds at the year end.	103	2	5	4.37	.700
Electronic budgeting has improved on the initial budget processes in the Ministry.	103	2	5	4.34	.587
The Ministry has been able to allocate adequate resources to the planned projects reducing amount of pending bills on public expenditure.	103	2	5	4.31	.741
The Ministry has provided adequate resources for implementation of IFMIS in budgeting.	103	2	5	4.25	.763
IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance in the Ministry.	103	2	5	4.14	.561
The Ministry has linked electronic budgeting to modules used in other units for effective controls.	103	1	5	2.96	.999
Valid N (list-wise)	**103**				

4.8   IFMISCash Managementand Public Expenditure Management in Kenya In determining the extent to which automated cash management system has improved accounting reporting in the public sector, Table 4.8 shows that majority (96.1%) of the respondents agreed, 1.9% were neutral while a few (1.9%) disagreed that automated cash management system has improved accounting reporting in the public sector. This follows that the system has great contribution in accounting and reporting of the accounting systems. This is possible as the system can easily generate various reports in a given command depending on the outcome expected.

In Table 4.8, majority (97.1%) of the respondent agreed that Automated Cash Management has promoted timely accounts processes, accountability, transparency, integrity, confidentiality and accuracy of accounts in the public sector while a few (1.9%) remained neutral. This indicates that the system has improved on the overall accounting system in the public sector and also strengthening cash management system as well. On the question of the system improving the managerial decision making in the accounts in the Ministry for better service delivery, majority (96.1%) of the respondents agreed that IFMIS has enhanced timely decision making capability while (2.9%) remained neutral as explained in Table 4.8 below. This indicates that the system has ensured that managers make critical decision in the public accounting sector hence better service delivery.

In regards to linking of automated cash management system to other IFMIS modules, Table 4.8 shows that majority (48.5%) of the respondents remained neutral,27.2% disagreed while a few (24.3%) agreedthat automated cash management system has been fully linked to other IFMIS modules. This shows that the public sector has not fully linked automated cash management system with other IFMIS modules within a given department for the purpose of control measures.According to results in Table 4.8, majority (92.2%) of the respondents agreed that linking of Automated Cash Management system with other IFMIS modules can improve accounting procedures in public sector, 4.9% remained neutral while a few percentage (2.9%) disagreed. The study indicates that there is need to fully link this module with others in the public sector to heighten accounting processes monitoringand controls.

On itemized budget misallocations, Table 4.8shows that this has been neutralized by this system where majority (94.2%) of the respondents agreed while a few (5.8%) remained neutral. This shows that the system has led to improved financial performance in the public sector and reduced audit queries in regard to financial misallocations. The results also show that the system has reduced fraud and improved quality of the accounting system where (94.2%) of the respondents agreed, 2.9% remained neutral while an equal portion disagreed with the statement. This further shows that the system has enhanced the accounting systems in the Ministry with the rate of fraudulent activities have reduced. On the system improving the payment processes and reducing misuse of public funds majority (95.1%) of the respondents, agreed, 2.9% remained neutral while a few (1.9%) disagreed. This can be interpreted further that the system has reduced payments period comparedto manual process.

The results in Table 4.8 illustrate that the system has assisted the management to deal with suspicious transactions where majority (95.2%) of the respondents agreed that implementation of IFMIS has assisted to improve monitoring of fraudulent transaction, 1.9% remained neutral while a few (2.9%) disagreed. This further shows that the system can be used by high level managers to control fraud in an early stage before they escalate to uncontrollable level.The results in the Table 4.5 further indicates that implementation of IFMIS had reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry was the key impact of IFMIS adoption based on the accounting module.

Table 4.8:IFMIS Cash Management and Public Expenditure Management in Kenya

Response	Frequency	Percent	Valid Percent
Automated Cash Management has improved cash management system and financial reporting			
Disagree	2	1.9	1.9
Neutral	2	1.9	1.9
Agree	54	52.4	52.4
Strongly Agree	45	43.7	43.7
Automated Cash Management has enhanced timely accounts processes			
Disagree	1	1	1
Neutral	2	1.9	1.9
Agree	60	58.3	58.3
Strongly Agree	40	38.8	38.8
The system has improved on the managerial decision making in the accounts			
Disagree	1	1	1
Neutral	3	2.9	2.9
Agree	47	45.6	45.6
Strongly Agree	52	50.5	50.5
The Ministry has linked Automated Cash Management to IFMIS modules used in other units for control purposes.			
Strongly Disagree	11	10.7	10.7
Disagree	17	16.5	16.5
Neutral	50	48.5	48.5
Agree	14	13.6	13.6
Strongly Agree	11	10.7	10.7
Linking of the Automated Cash Management module with other units' modules can/has improve on the PEM.			
Disagree	3	2.9	2.9
Neutral	5	4.9	4.9
Agree	50	48.5	48.5
Strongly Agree	45	43.7	43.7
IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance			
Neutral	6	5.8	5.8
Agree	63	61.2	61.2
Strongly Agree	34	33	33
IFMIS has reduced fraudulent transactions in accounts sector			
Disagree	3	2.9	2.9
Neutral	3	2.9	2.9
Agree	36	35	35
Strongly Agree	61	59.2	59.2
Use of IFMIS in Automated Cash Management process has improved the payment processes			
Disagree	2	1.9	1.9
Neutral	3	2.9	2.9
Agree	48	46.6	46.6
Strongly Agree	50	48.5	48.5
The system has enabled the management to detect suspicious transactions and take action in time			
Disagree	3	2.9	2.9
Neutral	2	1.9	1.9
Agree	56	54.4	54.4
Strongly Agree	42	40.8	40.8
Total	**103**	**100**	**100**

Resulting from a mean analysis of the impact implementation of automated cash management system on public expenditure management in Table 4.9, the study observed that; IFMIS has reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry had a mean of 4.50, followed by the system has improved on the managerial decision making in the accounts and linkage with other units in the Ministry for better service delivery in the accounts department with a mean of 4.46, use of IFMIS in Automated Cash Management process has improved the payment processes and has reduced misuse of public funds with a mean of 4.42, Automated Cash Management has improved cash management system and financial reporting in the Ministry with a mean of 4.38 and Automated Cash Management has enhanced timely accounts processes, accountability, transparency, integrity, confidentiality and accuracy of accounts transactions in the Ministry with a mean of 4.35. This results meant that implementation of IFMIS had reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry was the key impact of IFMIS adoption based on the IMIS accounting module.

Table 4.9: IFMIS Cash Management and Public Expenditure Management in Kenya

Statement	N	Minimum	Maximum	Mean	Std. Deviation
IFMIS has reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry.	103	2	5	4.50	.698
The system has improved on the managerial decision making in the accounts and linkage with other units in the Ministry for better service delivery in the accounts department.	103	2	5	4.46	.607
Use of IFMIS in Automated Cash Management process has improved the payment processes and has reduced misuse of public funds.	103	2	5	4.42	.650
Automated Cash Management has improved cash management system and financial reporting in the Ministry.	103	2	5	4.38	.628
Automated Cash Management has enhanced timely accounts processes, accountability, transparency, integrity, confidentiality and accuracy of accounts transactions in the Ministry.	103	2	5	4.35	.572
Linking of the Automated Cash Management module with other units' modules can/has improve on the Public Expenditure Management.	103	2	5	4.33	.706
The system has enabled the management to detect suspicious transactions and take action in time before it escalates to higher level.	103	2	5	4.33	.663
IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance in the Ministry hence less audit queries.	103	3	5	4.27	.564
The Ministry has linked Automated Cash Management to IFMIS modules used in other units for control purposes.	103	1	5	2.97	1.080
Valid N (list-wise)	**103**				

4.9   IFMIS and Public Expenditure Management

Since the system provides a platform for generation of various modes of reports, the management can get revenue collected in the public sector and use the reports to make key financial decisions related to the projects implementation. The response acquired from the research study and presented in Table 4.10 shows that majority (96.1%) of the respondents agreed with the statement while a few (4.9%) remained neutral. This indicates that the system can enable accountability of finances through various reporting criteria. According to the analysis of Table 4.10, majority (96.1%) of the respondents agreed while a few (2.9%) disagreed that the system has promoted transparency, accountability and efficiency of government collections. This in-turn promotes understanding of the revenue collected in the public sector for accountability purposes. In the case of reconciliation of government revenue account with the government exchequer balances, Table 4.10indicates that majority (95.1%) of the respondents agreed that the system provides a portal for filtering and generation of various of revenue reports for reconciliation, 3.9% remained neutral while a few (1.9%) disagreed. This shows that reconciliation of books of account in the public sector has been streamlined for key decision making.

The results in Table 4.10can be interpreted that majority (94.1%) of the respondents agreed that the system has allowed adequate allocations to the implementation of projects till completion without stalling, 3.9% remained neutral while a few (1.9%) disagreed. This means that the system has great contribution in the process of provision of essential services to the public by the government within a given timeframe. With IFMIS, results in Table 4.10indicates that majority (96.1%) of the respondents agreed that the system has led to reduction of unauthorized budget shifting from one unit to another which leads to poor financial management of public funds and non-performance of the key projects while a few (2.9%) were neutral. This shows that the system can detect unauthorized budget shifting and alert relevant party's in-time for appropriate action to be taken. On the question of the system improving overall financial management, majority (97.1%) of the respondents agreed that the system has boosted public expenditure management while a few (2.9%) were neutral as indicated in Table 4.10below. This can further be interpreted that the system has capacity manage various allocations and monitor the trend for progress reporting.

The results in Table 4.10below on linking various system modules together shows that majority (95.1%) of the respondents agreed that the system has/can reduced public funds misuse through unauthorized public expenditure while a few (4.9%) were neutral. The study indicates that for management in the public sector to report on utilization of funds, there is need to link these modules with each other which act as overall expenditure monitoring tool. Given that the system has the criteria to monitor the trend of expenditure, results in Table 4.10shows that majority (96.1%) of the respondents agreed that the system has enabled undertaking of the core activities while a few (3.9%) remained neutral. This further can be interpreted that the management can perfectly undertake their mandated activities appropriately as per the performance contract

Majority (96.1%) of the respondents agreed that the system has enabled the management to adhere to the performance contract which in-turn minimizes the number of audit queries arising from un-planned expenditure, 2.9% remained neutral while a few (1%) disagreed. This shows that the system is appropriate tool in assist the management in adherence to the laid down procedures in discharging their financial obligations.

Table 4.10: IFMIS and Public Expenditure Management

Response	Frequency	Percent	Valid Percent
The system has enabled generation of revenue collection reports for decision making by the management.			
Disagree	1	1	1
Neutral	5	4.9	4.9
Agree	55	53.4	53.4
Strongly Agree	42	40.8	40.8
IFMIS modules have promoted transparency of government collections hence improved Public Expenditure Management			
Disagree	3	2.9	2.9
Neutral	1	1	1
Agree	54	52.4	52.4
Strongly Agree	45	43.7	43.7
Through the system, the government revenue account reconciliation with the government exchequer balances has been easily done hence improved Public Expenditure Management in the Ministry.			
Disagree	3	2.9	2.9
Neutral	2	1.9	1.9
Agree	55	53.4	53.4
Strongly Agree	43	41.7	41.7
The system has assisted in allocating the adequate resources on the government projects without biased opinions.			
Disagree	2	1.9	1.9
Neutral	4	3.9	3.9
Agree	43	41.7	41.7
Strongly Agree	54	52.4	52.4

Response	Frequency	Percent	Valid Percent
IFMIS has streamlined all the government financial processes on allocations without budget unauthorized budget shifting in various units in the Ministry.			
Disagree	1	1	1
Neutral	3	2.9	2.9
Agree	40	38.8	38.8
Strongly Agree	59	57.3	57.3
IFMIS modules have improved on the financial management of allocations and public expenditure management in the Ministry.			
Neutral	3	2.9	2.9
Agree	44	42.7	42.7
Strongly Agree	56	54.4	54.4
Linked IFMIS modules can/has reduced misappropriation of public funds in the Ministry through un-approved expenditures.			
Neutral	5	4.9	4.9
Agree	34	33	33
Strongly Agree	64	62.1	62.1
The system has enabled timely expenditure on Ministry's core activities hence reduction of occurrence of pending bills at the end of the financial year.			
Neutral	4	3.9	3.9
Agree	56	54.4	54.4
Strongly Agree	43	41.7	41.7
The system has reduced the number of audit queries on un-planned expenditure by various units in the Ministry.			
Disagree	1	1	1
Neutral	3	2.9	2.9
Agree	55	53.4	53.4
Strongly Agree	44	42.7	42.7
Total	**103**	**100**	**100**

4.10 Correlation betweenIFMIS and Public Expenditure Management in Kenya

The correlation between IFMIS and Public Expenditure was tested using Karl Pearson's coefficient of correlation (r) and probability value (p-value) analysis.A correlation was considered significant when the resulting p-value was equal to or below 0.05 (p-value ≤ 0.05). Correlation values (r) close to zero meant a weak relationship and r close to one meant a strong correlation existed.

From Table 4.11 the results show that there is a moderate strong significant positive relationship (r=0.708, p=0.000) between electronic procurement module and public expenditure management at 0.01 level in a two tailed test. The correlation between electronic budgeting module and public expenditure managementshows a significant strong positive (r=0.806, p=0.000) correlation at 0.01 level in a two tailed test. Table 4.11 reveals the existence of a moderately strong significant

positive relationship (r=0.774, p=0.000) between Automated Cash Management Module and public expenditure management at 0.01 level in a two tailed test.

Table 4.11: Correlation between IFMIS and Public Expenditure Management

		Electronic Procurement Module	Electronic Budgeting Module	Automated Cash Management Module	Public Expenditure Management
Electronic Procurement Module	Pearson Correlation	1	.708**	.689**	.709**
	Sig. (2-tailed)		.000	.000	.000
	N	103	103	103	103
Electronic Budgeting Module	Pearson Correlation	.708**	1	.725**	.806**
	Sig. (2-tailed)	.000		.000	.000
	N	103	103	103	103
Automated Cash Management Module	Pearson Correlation	.689**	.725**	1	.774**
	Sig. (2-tailed)	.000	.000		.000
	N	103	103	103	103
Public Expenditure Management	Pearson Correlation	.709**	.806**	.774**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	103	103	103	103

**. Correlation is significant at the 0.01 level (2-tailed).
Source: Author (2017)

4.11 Effect of IFMIS on Public Expenditure Management

The study adopted the use of multiple regression analysis in testing the effect of IFMIS on public expenditure management. Guided by the assumption of linear relationship IFMIS and Public ExpenditureManagement, the study used the Ordinary Least Square (OLS) method of estimation to extract a regression line that provided the best fit. The data was then tested against the key assumptions of regression including; Linearity, multivariate normality, no or little multicollinearity and homoscedasticity.

Assumption 1, linearity.Multiple Linear Regressions (MLR) need the relationship between the independent and dependent variables to be linear. The study tested the existence of a linear relationship between e-procurement and public expenditure. The results in Appendix II show no violation of this assumption as a linear relationship exists between the two. Assumption 2, multivariate normality. MLR analysis requires that the error between observed and predicted values (the residuals of the regression) should be normally distributed. A test of normality using

normality plot of regression standardized residual of public expenditure management in Appendix III, shows the data was normally distributed.

Assumption 3, multicollinearity test. The independent variables were correlated using Pearson correlation test. The results in Appendix V show the existence of non-significant correlation or weak correlation between the independent variables. This meant the data did not suffer from multicollinearity. Assumption 4, the existence of equal variance (homoscedasticity). The residual plots in Appendix III showed that the error term (ε_i) was normally and identically independently distributed with mean zero and constant variance. This meant the error variance in electronic procurement module was constant along the public expenditure management. Hence the data did not suffer from heteroscedasticity and instead was homoscedastic. The study then tested the estimated model below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \qquad \text{(equation 1)}$$

From equation 1, Y is the dependent variable (public expenditure management), β_0 is the constant in the estimated model showing thepublic expenditure management levels in the absence of the IFMIS management, β_1, β_2, β_3 are the Beta coefficients of independent variables, X_1, X_2 and X_3 are the independent variables; procurement module, budgetary module and respectively andaccounting moduleε is the error term associated with the estimated regression model.The impact of implementation of IFMIS on public expenditure management was examined by testing the three research hypotheseswhich stated that:

H$_{01}$: IFMIS procurementmodule has no significant effect on public expenditure management
H$_{02}$: IFMIS budgetingmodule has no significant effect on public expenditure management
H$_{03}$: IFMIS automated cash managementmodule has no significant effect on public expenditure
    management
The multiple linear regression analysis resulted in several outputs and the following three were interpreted; the model summary, Analysis of Variance (ANOVA) and coefficients tables. The model summary in Table 4.12 presents three models (model 1, model 2 and model 3). The models presents outcome based on one predictor (a), two predictors (b) and three predictors (c), with public expenditure management as the dependent variable. The model summary outcome shows the coefficient of determination (R^2), which measures how well the resulting model is

likely to predict future outcomeson public expenditure management. Model 3 comprised all the predictor's (Electronic Procurement Module, Electronic Budgeting Module, Automated Cash Management Module) and had the highest value of $R^2 = 0.679$. This meant that model 3 could predict 67.9% of the variations in public expenditure management, hence it provided a good fit.

Table 4.12: Model Summary of IFMIS Modules and Public Expenditure Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.770[a]	.592	.588	.26487	.592	146.79	1	101	.000
2	.815[b]	.664	.664	.24183	.072	59.351	1	100	.000
3	.824[c]	.679	.669	.23741	.015	18.137	1	99	.000

a. Predictors: (Constant), Electronic Budgeting Module

b. Predictors: (Constant), Electronic Budgeting Module, Automated Cash Management

c. Predictors: (Constant), Electronic Budgeting Module, Automated Cash Management Module, Electronic Procurement Module

d. Dependent Variable: Public Expenditure Management

Source: Author (2017)

The resulting ANOVA Table 4.13 was used to interpret the significance of the models. It shows that model 1, model 2 and model 3 were statistically significant (p-value = 0.000) at 0.05 level. The p-value = 0.000 of model 3, comprising all the predictors shows the overall model was significant in explaining the linear relationship between implementation of IFMIS and public expenditure management. The coefficients of model 3 were then interpreted.

Table 4.13: ANOVA Statistics of IFMIS Modules and public expenditure management

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	10.298	1	10.298	146.79	.000[b]
	Residual	7.086	101	.070		
	Total	17.384	102			
2	Regression	11.536	2	5.768	98.628	.000[c]
	Residual	5.848	100	.058		
	Total	17.384	102			
3	Regression	11.804	3	3.935	69.809	.000[d]
	Residual	5.580	99	.056		
	Total	17.384	102			

a. Dependent Variable: Public Expenditure Management
b. Predictors: (Constant), Electronic Budgeting t Module
c. Predictors: (Constant), , Electronic Budgeting Module, Automated Cash Management Module
d. Predictors: (Constant), Electronic Budgeting Module, Automated Cash Management Module, Electronic Procurement Module,

Source: Author (2017)

Considering the good fit of model 3, its coefficients were interpreted. Table 4.17 shows that Electronic Procurement Module had a significant coefficient with p-value = 0.032. The study therefore rejected H_{01} at 5% level, and interpreted the results to mean that IFMIS procurementmodule had a significant effect on public expenditure management in Kenya. The resulting coefficient of electronic budgeting was significant withp-value = 0.000 and therefore $H_{02}$was rejected at 5% level and IFMIS budgetingmodule therefore had a significant effect on public expenditure management in Kenya. On examining the coefficient of Automated Cash Management Module, it was observed thatthere is a significant p-value=0.002 and therefore H_{03}as rejected at 5% level and IFMIS automated cash managementmodule therefore had a significant effect on public expenditure management in Kenya.

Table 4.14 Coefficients of IFMIS Modules

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
3	(Constant)	.674	.272		2.479	.015	.134	1.214
	Electronic Procurement Module	.201	.092	.187	2.181	.032	.018	.384
	Electronic Budgeting Module	.421	.077	.454	5.435	.000	.267	.574
	Automated Cash Management Module	.270	.087	.278	3.111	.002	.098	.443

a. Dependent Variable: Public Expenditure Management

Source: Author (2017)

The resulting coefficients in Table 4.14 led to the derivation of the fitted model as follows;

$$Y= 0.674+0.201X_1+0.421X_2+0.270X_3 \qquad \text{(equation 2)}$$

From equation (2), Y represented public expenditure management, 0.674 is the constant in the estimated model showing the public expenditure management levels in the absence of the IFMIS modules, X_1, X_2 and X_3 are the independent variables; procurement module, budgetary module

and Automated Cash Management Module. From equation (2) it is evident a unit change in electronic budgetary module would result in a 42.1% positive change in the public expenditure management. It is further shown that a unit change in Automated Cash Management Module would lead to a 27% positive change in public expenditure management. It was noted that a unit change in Electronic Procurement Module would result in a 20.1% change in public expenditure management. This outcome meant that that electronic budgetary module (X_2) had the greatest influence on public expenditure management, followed by Automated Cash Management Module and Electronic Procurement Module.

The results of the analysis have shown that IFMIS procurement, budgeting and cash management modules have a strong correlation with expenditure management in public sector. The three modules also have a significant positive effect on the expenditure management in Kenya public sector.

CHAPTER FIVESUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusion and recommendations of the study based on the objective of the study which sought to establish effect of integrated financial management information system on public expenditure management in Kenya.

5.2 Summary of the Findings

This section presents a summary of the study findings and a discussion of the results as corroborated by other studies is equally presented. The discussion is guided by the three research objectives.

5.2.1 IFMIS Electronic Procurement and Public Expenditure Management

The study sought to establish the effect of IFMIS electronic procurement on public expenditure management. It was established that electronic procurement module had a significant coefficient with p-value = 0.032 and hence it was interpreted to mean that IFMIS procurement module had a significant effect on public expenditure management in Kenya. The effect of electronic procurement module on public expenditure management was explained to a great extent by the following three elements; Linking of the E-procurement with other units' modules to reduce misuse of public fund, the second was that adoption of IFMIS had reduced expenditure on unplanned procurement leading to improved quality of procurements done and third, it was observed that that E-procurement had enhanced transparency in the procurement process.

The results are consistent with the works of Bertot, Jaeger, Bertot and Gimes(2010) who indicated that E-procurement in public institutions has played a big role in reducing anomalies through good governance in procurement sector which promotes public expenditure management.

5.2.2 IFMIS Electronic Budgeting module and Public Expenditure Management

The study also addresses the effect of electronic budgeting module on public expenditure management. The findings of the study indicated that electronic budgeting module had a significant coefficient with p-value = 0.000, this illustrates how IFMIS budgeting module had a significant effect on public expenditure management in Kenya. The outcomes of electronic

budgeting module on public expenditure management was further clarified by the three elements as follows; Linking of the electronic budgeting module with other units' modules can improve monitoring on the Public Expenditure Management, implementation of the system has assisted the management to make appropriate decision on the priority activities during the budget implementation and lastly the system has guaranteed transparency on overall decision making process in budgeting.

The findings were in line with the studies of Rodian-Brown (2008), whose results showed that E-budgeting has assisted the managers and the decision makers in the public sector to have adequate information which is timely, accurate and consistent data for budgetary processes. Also the results were in agreement with the study of Kimanzi and Njonde (2014) who established that the system has improved on the financial processes with regard to budgets through provision of financial reporting, budget execution and internal controls. This in-turn guarantees confidentiality and credibility of the budget through transparency of the budgetary information.

5.2.3 IFMIS Cash Management Module and Public Expenditure Management

In reviewing the effects of automated cash management module on public expenditure management, the study indicated that system had a significant coefficient with p-value = 0.002, this illustrates how the system had a significant effect on public expenditure management. The outcomes of automated cash management module on public expenditure management was also explained by the three elements as follows; the system has reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry, the second one is that the system has improved on the managerial decision making in the accounts and linkage with other units in the Ministry for better service delivery in the accounts department and the third one is that the system has improved the payment processes and reduced misuse of public funds.

These results were in consistent with the study of Diamond and Khemani (2008), whose results indicated that the system supports financial reporting, policy decision, fiduciary responsibilities and preparation of auditable financial statement. Also the findings also concurs with the study done by Diamond and Khemani (2008),who shown that system can generate any financial reports like in balance sheet, costs reports, return on investment, cash flow projections among

others. The generated reports can be used for various managerial purposes like decision making, track status of debts and receivables, monitor financial management among other activities in the accounting unit. The module has further enhanced confidentiality, integrity, availability and control of data. This assists in improving fraud detection and audit trail of all accounting processes as required in the International Standards.

5.3   Conclusion

Based on the study findings, linking of the procurement module with other units' modules like E-budgeting and Automated Cash Management can increase the system controls as monitoring of the entire integrated system is guaranteed which later reduces misuse of public fund. According to the study, the processes have been inadequately interlinked and there is need to improve on the entire system. Also the study concluded that the adoption of IFMIS had curbed unplanned expenditure on procurement leading to improved quality of procurements done since the system can easily generate the procurement plans to be adopted by various units in the public sectors for procuring purposes. The adoption of E-procurement according to the study has enhanced transparency in the procurement process to a greater extent. This has been made possible by the fact that the system enables systematic procurement processes from the time of planning to the final process of procurement.

On the implementation of e-budgeting, the issue of linking electronic budgeting with other units' modules had the greatest effect on public expenditure management. This is through the fact that the budget implementers can be able to trace a given allocation to various projects and rate the extent at which they are being undertaken hence enhanced monitoring and evaluation of the same. Also the integrated system has enhanced appropriate decision making in budgeting through prioritizing on the key activities in various units in the public sector.

On the implementation of automated cash management module, the study concluded that the system has improved accounting reporting in the public sector. This is possible as the system can easily generate various reports in a given command depending on the outcome expected. The system has also promoted timely accounts processes, accountability, transparency, integrity, confidentiality and accuracy of accounts which has also improved on the overall accounting system in the public sector. The system has also greatly contributed in improving the managerial decision making in the accounts in the Ministry for better service delivery for public accounting

sector. The study concluded that public sector has not fully linked automated cash management system with other IFMIS modules within a given department for control purpose hence there is need to link this module with others in the public sector to heighten accounting processes monitoring.

5.4   Recommendation

The study establishes that there is less emphasize on linking IFMIS modules in the public sector which attributes to less efficiency in implementation of IFMIS. Therefore the study recommends that there is need to link various IFMIS modules in the public sector. This would enhance efficient system controls and monitoring of various activities undertaken by ministries' units.

With guidance of the research findings, there is need to increase awareness of the integrated system applications so as to ensure each public officer is interacting with the system on daily basis. The government should increase the amount of resources for the system implementation and further monitoring of its operations. This would also enhance system controls which would reduce unauthorized transactions.

System integration for the modules should be fast-tracked and administered from a centralized destination by an independent personnel. This would reduce the extent at-which an authorized budget shifting occurs at different department and Ministries. This implied that there is reduction of the entire procurement expenditure in the public sector as a result of adopting IFMIS.This shows government commitment of ensuring IFMIS is running smoothly in all the department. This is an indication that the public sector is making a great milestone in improving the procurement plans which are critical in the supply chain management processes.

5.5   Area for Further Research

The study proposed for a further research so as to widen the scope of the study and analyze the effect of IFMIS implementation on public expenditure management. This would include both levels of government using IFMIS in their day to day operations. A further study by researcher to be undertaken to evaluate other in-depth factors of implementing IFMIS and their impact on the overall financial management in the public sector.

5.6   Limitations of the Study

The study was faced by challenges of delayed response of the system implementers especially the administrators due to the nature of their work which was too demanding in terms of sparing their time to respond on the questionnaire. This limited the timeframe for the study but they were allowed for more time to respond to ensure most of them gave their views. Also some officers were unwilling to provide the information due to job security.

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APPENDIX I: Research Questionnaire

This research is carried out as part of fulfillment of requirements for a degree in Masters of Science in Finance and Economics from KCA University. The questionnaire is meant to investigate the impact of implementation of IFMIS on Public Expenditure Management in Kenya. Answer the questions provided by ticking on the box or writing on the space provided. The information given in this questionnaire will be used only for this study and high level of confidentiality of the information given will be guaranteed. Your cooperation is highly appreciated.

PART 1:   GENERAL INFORMATION

(Please fill the Particulars)

    a) What is your gender?   Male ☐Female ☐

    b) What is your age? _____years.

    c) Name of your Ministry (optional) _____

    d) Years worked in the Ministry   _____ years.

    e) Indicate your department of work _____department.

    f) Position held: Managerial ☐ Non-managerial   ☐

g) Education level

        Secondary school   ☐

        Diploma   ☐

        Bachelor's degree   ☐

        Masters' degree   ☐

        Doctorate   ☐
        Others (specify) _____

SECTION I: IFMIS ELECTRONIC PROCUREMENT

This section has statements on the impact of implementation of E-procurement on Public Expenditure Management.

a) Are you aware of E- procurement and its key components?

        Yes ☐   No ☐

If no, please explain _____

_____

b) Do you frequently use E- procurement in your department?

        Yes ☐   No ☐

If no, please explain _____

_____

c) Does your department use E- procurement in the procurement processes?

        Yes ☐   No ☐

If no, please explain _____

_____

(d) Respond with a tick, (√), as appropriate.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
Online Infrastructure						
1	The Ministry has provided adequate resources for implementation of IFMIS in procurement.					
2	IFMIS procurement module has improved the supply chain planning in the Ministry.					
3	The Ministry has linked E- procurement to modules used in other units.					
Procurement Procedure						
1	E-procurement has enhanced transparency in the Procurement process.					
2	IFMIS has reduced expenditure on unplanned procurement and has improved quality of procurements done.					
3	Automation of procurement processes has reduced the entire procurement of goods hence improved public expenditure.					
Value for Money						
1.	Linking of the E- procurement with other units' modules can reduce misuse of public fund.					
2.	The ministry's customers appreciate and believe that use of IFMIS in the public procurementprocesses lead to improved service delivery and value addition to the government.					
3.	The system has enabled the government to control the quality of supplies made hence value for money.					

SECTION II: IFMISELETRONIC BUDGETING

This section has statements on the impact of implementation of electronic budgetingon Public Expenditure Management.

a) Are you aware of electronic budgeting and its key components?

Yes ☐   No ☐

If no, please explain _____

_____

b) Do you frequently use IFMIS system in your department?

Yes ☐   No ☐

If no, please explain _____

_____

c) Does your department use electronic budgetingin the budgeting processes?

Yes ☐   No ☐

If no, please explain _____

_____

d) Respond with a tick, (√), as appropriate.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
Budget formulation						
1.	Electronic budgeting has improved on the initial budget processes in the Ministry.					
2.	Electronic budgeting has enhanced transparency on decision making process in budgeting processes.					
3.	The Ministry has provided adequate resources for implementation of IFMIS in budgeting.					
Budget execution						

1.	The system has enabled the management to make appropriate decision on the priority activities during the budget implementation					
2.	The Ministry has been able to allocate adequate resources to the planned projects reducing amount of pending bills on public expenditure.					
3.	The system has enabled timely implementation of government projects hence reduced the amount of un-utilized funds at the year end.					
Monitoring						
1.	Linking of the electronic budgeting with other units' modules can/has improve monitoring on the Public Expenditure Management.					
2.	IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance in the Ministry.					
3.	The Ministry has linked electronic budgeting to modules used in other units for effective controls.					

SECTION IV: IFMISAUTOMATED CASH MANAGEMENT

This section has statements on the impact of implementation of Automated Cash Management Module on Public Expenditure Management.

a) Are you aware of Automated Cash Management and its key components?

        Yes ☐   No ☐

If no, please explain _____

_____

b) Do you frequently use IFMIS system in your department?

        Yes ☐   No ☐

If no, please explain _____

_____

c) Does your department use Automated Cash Management in making accounts transactions?

        Yes ☐   No ☐

If no, please explain _____

_____

d) Respond with a tick, (√), as appropriate.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
Automated Cash Management						
1	Automated Cash Management has improved cash management system and financial reporting in the Ministry.					
2	Automated Cash Management has enhanced timely accounts processes, accountability, transparency, integrity, confidentiality and accuracy of accounts transactions in the Ministry.					
3	The system has improved on the managerial decision making in the accounts and linkage with other units in the Ministry for better service delivery in the accounts department.					
Financial Controls						
1.	The Ministry has linked Automated Cash Management					

	toIFMIS modules used in other units for control purposes.					
2.	Linking of the Automated Cash Management module with other units' modules can/has improve on the Public Expenditure Management.					
3.	IFMIS has reduced unit's itemized budget misallocations hence improved quality of financial performance in the Ministry hence less audit queries.					
Fraud Detection						
1.	IFMIS has reduced fraudulent transactions in accounts sector and has improved quality of the accounting system in the Ministry.					
2.	Use of IFMIS in Automated Cash Management process has improved the payment processes and has reduced misuse of public funds.					
3.	The system has enabled the management to detect suspicious transactions and take action in time before it escalates to higher level.					

SECTION V: PUBLIC EXPENDITURE MANAGEMENT

This section has statements on Public Expenditure Management.

a) Are you aware of Public Expenditure Management and the managerial commitment towards reducing public expenditure?

Yes ☐   No ☐

If no, please explain _____

_____

b) Does the management sensitize IFMIS users on Public Expenditure management using IFMIS systems?

<div style="margin-left: 2em;">Yes ☐   No ☐</div>

If no, please explain _____

_____

c) Do you think your department's use of IFMIS has contributed towards Public Expenditure Management?

<div style="margin-left: 2em;">Yes ☐   No ☐</div>

If no, please explain _____

_____

d) Respond with a tick, (√), as appropriate.

No.	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
Revenues						
1	The system has enabled generation of revenue collection reports used by the management in key decision making processes of the Ministry's projects.					
2	IFMIS modules have promoted transparency, accountability and efficiency of government collections hence improved Public Expenditure Management.					
3	Through the system, the government revenue account reconciliation with the government exchequer balances has been easily done hence improved Public Expenditure Management in the Ministry.					

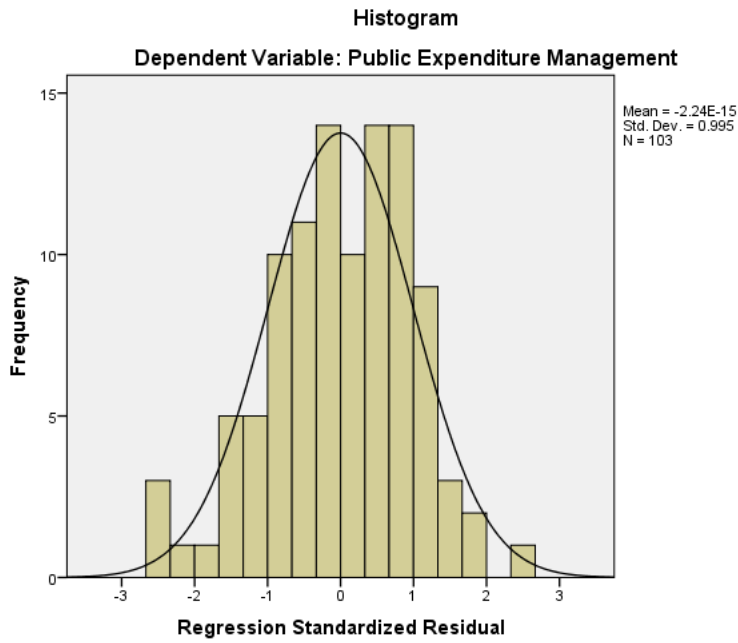|	Allocation					
1.	The system has assisted in allocating the adequate resources on the government projects without biased opinions.					
2.	IFMIS has streamlined all the government financial processes on allocations without budget unauthorized budget shifting in various units in the Ministry.					
3.	IFMIS modules have improved on the financial management of allocations and public expenditure management in the Ministry.					
	Expenditure					
1.	Linked IFMIS modules can/has reduced misappropriation of public funds in the Ministry through un-approved expenditures.					
2.	The system has enabled timely expenditure on Ministry's core activities hence reduction of occurrence of pending bills at the end of the financial year.					
3.	The system has reduced the number of audit queries on un-planned expenditure by various units in the Ministry.					

Thank you.

Appendix II: Linearity Test
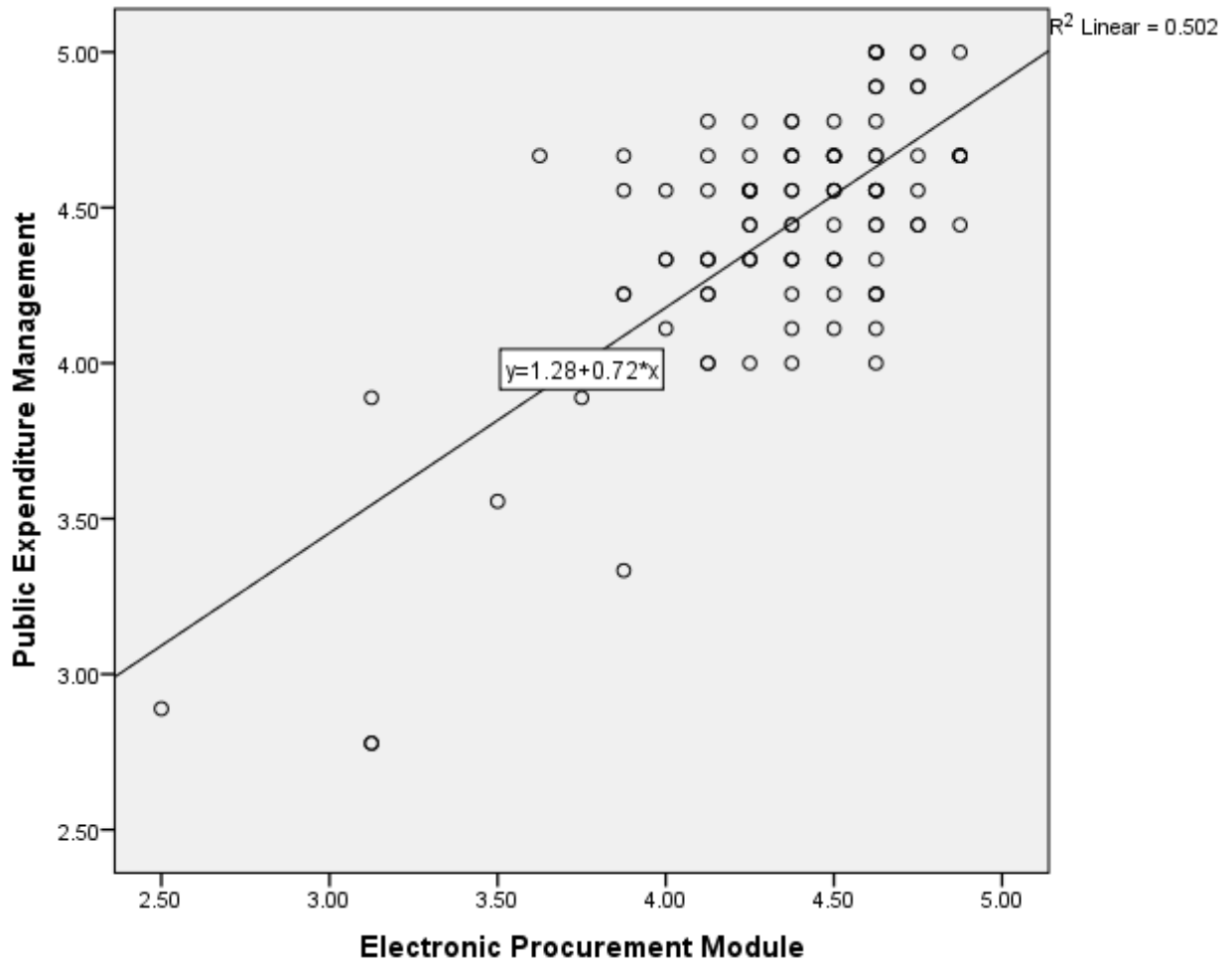
Appendix III: Normality Test

a) Histogram/Normality Plot of Public Expenditure Management

Histogram
Dependent Variable: Public Expenditure Management

Mean = -2.24E-15
Std. Dev. = 0.995
N = 103

b) Normality Plot of Regression Standardized Residual of Public Expenditure Management

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Public Expenditure Management