



**ROLE OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION SYSTEM (IFMIS) ON PROCUREMENT PERFORMANCE IN GOVERNMENT MINISTRIES IN KENYA: A CASE OF MINISTRY OF HEALTH**

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**Accepted: May 11, 2018**

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**ABSTRACT**

*The study intended to investigate the role of IFMIS on procurement performance in state corporations in Kenya. The study used the Ministry of Health as a case study. The study employed a survey research design in data collection. The study used target population of 34 respondents from the ministry of health. Data analysis was conducted by the use Statistical Package of Social Sciences (SPSS) version 22 and Microsoft Excel. It was notable that there exists a strong positive relationship between the independent variables and dependent variable as shown by R value (0.865). The coefficient of determination ( $R^2$ ) explained the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable and the four independent variables that were studied explain 74.80% of the procurement performance in the government ministries in Kenya as represented by the  $R^2$ . This therefore meant that other factors not studied in this research contribute 25.20% to the procurement performance in the government ministries in Kenya. This implied that these variables were very significant therefore needed to be considered. There was need to implement government policy on IFMIS as it influenced performance of IFMIS in public sector. The existing IFMIS policy had not been well implemented thus the study recommended for effective compliance on the usage of IFMIS in the the public sector. To enhance procurement performance in the public sector, there was need to have sufficient and qualified procurement personnel with enough training. There should be adequate training and simulation for key stakeholders especially the procurement staff. The government should offer professional skills related to procurement and employ staff with the professional skills. The study recommended that the government to ensure that there is adequate ICT infrastructure with enough computers and software for the staff to use for IFMIS in the organization software are available for the use by the staff. The reference manual for use on the management of IFMIS should be available and the users should be trained for them to find the system to be easier in processing of information.*

**Key Words:** Reliability, Security Level, ICT Infrastructure, Top Management, IFMIS

## INTRODUCTION

According to the Republic of Kenya (2011), economic growth and development is partly anchored on a strong financial management system (FMS). Installing an effective and efficient FMS ensures that all state corporations raise, manage, and spend public resources in the most effective and transparent way. On this effect, Wainaina (2014) explains that the Government of Kenya (GOK) has implemented significant reforms in public financial management in the recent past in an effort to enhance accountability and transparency.

Likewise, Mokaya (2013) points out that developed and developing countries alike have invested heavily in reforming their FMS in order to reap great benefits from advantages on information and communication technology (ICT), which has so far enabled state corporations and government ministries to redefine business process besides developing new business models. Heo (2013) further argues that developing countries mostly in Africa have reported positive progress in improving procurement performance through implementation of FMS.

Mbae (2014) reiterates the desire for national, county, and local government departments to strengthen public procurement. Heo (2013) points out that since the 1990s, streamlining public procurement process has attracted increasing attention. Characteristically, the trend has been shifting towards integration of public procurement systems mostly in developing countries because developed nations have already made tremendous progress in the field. According to Charko *et al.*, (2010) the need to improve efficiency in the public procurement process has put overwhelming pressure to national governments across the globe. Consequently, Mokaya (2013) expounds that integrated financial management systems (IFMS) have been developed and adopted in most of the

countries. In Kenya, Integrated Financial Management Information System (IFMIS) was adopted precisely because of the push for IFMS due to the need to mitigate the drawback of the manual public management systems (PMS) and the need to improve efficiency and effectiveness in government service delivery (Wainaina, 2014).

According to Kihara (2009), adoption of IFMIS in developing countries has been championed, as arguably the most effective strategy in mitigating the overwhelming effects of irregularities in the public procurement process that has characterized public institutions for many decades. Kimwele (2011) further explains that IFMIS increases oversight, control, and monitoring of receipts and expenditure in the public sector. It increases the ability to access important information on operational and financial performance, necessitate ease of accessing information on state cash position as well as information on economic performance. Jobe (2009) indicates that IFMIS is crucial because it necessitates demonstration accountability to the public and donors.

From a global perspective, IFMIS has presented complex implementation challenges. Nonetheless, it is increasingly becoming a core component and driver of reforms in the financial sector in public institutions in both developed and developing countries (Chêne, 2009). The World Bank reported that in 2005 alone, it funded IFMIS projects in 27 countries at an estimated cost of USD 1.1 billion (Miranda & Keefe, 2008). It points out that in the process of support the project across the globe, the World Bank has noted that IFMIS implementation is demanding especially for developing economies. The process has not been always successful (Kanyugi, 2014).

In spite of the challenges and many failed trials to implement IFMIS across the globe, there are numerous cases of success where implementation

was very smooth. The Republic of Slovakia is cited repeatedly for a rapid success of IFMIS implementation. The success is attributed to a strong backing of strong political will and parliamentary commitment that was a strong driving force in the effort to realize governance transformation. The political willing was pushed by the desire to comply with the EU required changes. Similarly, Kosovo offers a second exemplary example of success in IFMIS implementation but in a different post-conflict context. The country did not have central government institutions. Consequently, it did not have a treasury system or budget process to take care of the huge inflow of foreign aid flowing into the country for economic reconstruction. IFMIS was successfully implemented but driven by donor agencies such as SIDA, CIDA, and USAID in cooperation with the Canadian e-government software system.

According to GoK (2015), the Kenya National Government (KNG) is mandated by the constitution to protect and safeguard the safety and wellbeing of Kenyans. The government is split into national and county governments. Irrespective of the level of governance, Mutui (2014) explains that both levels of governance are split into economic and administrative structures, which are managed jointly. GoK (2015) explains that GoK does not only focus on effectiveness and efficiency of public procurement processes, but has a responsibility of ensuring accountability, transparency, and interactive access of information pertaining public expenditure. All these are done in an effort to improve public service delivery. Wainaina (2014) explains that to meet this level of expectation, emphasis is laid on procurement practices and operations.

Hendriks (2012) explains that IFMIS is an information system programmed to track financial transactions. Besides summarizing financial

information, IFMIS supports adequate policy decisions, management reporting, preparation of auditable financial statements, and fiduciary responsibilities. GoK (2015) further explain that IFMIS is computerization of state financial management process ranging preparation of budgets to execution. It integrates all the processes of financial management in the government operations sphere (RoK, 2011). Wainaina (2014) explains that the overall task of the system is to connect, accumulate, process, and provide financial information to all stakeholders on a continuous basis. In this regard, it is imperative for the system to provide the needed information in a timely and accurate manner for it to fulfill its central function as a financial management system.

The Ministry of Health, one of the ministries under the Kenyan National Government, is currently headed by Dr. Cleopa Mailu who is the Cabinet Secretary and deputized by Nicholas Muraguri, the Principal Secretary. Figure 1 illustrates the organizational structure. The ministry is mandated to develop policies designed to provide high quality and affordable healthcare for people in Kenya. Additionally, it is responsible for amongst other functions, the development of competent, and motivated work-force of medical professionals and ability to respond adequately to public health related issues and emergencies. The ministry has a procurement department tasked with a key responsibility of ensuring effective and efficient utilization of resources allocated to the ministry.

#### **Statement of the Problem**

Kenya has invested heavily in information management systems hoping that it will reap great benefits. Heo (2013) states that development realized in ICT has enabled developed countries to redefine business processes besides developing new strategic business models. Besides, Charko *et al.*, (2010) further indicates that the need to

improve ultimate utilization of public resource in state institutions is pushing most developing countries to adopt IFMS. A study conducted by Wainaina (2014) found out that a well implemented and fully functioning IFMIS is likely to improve governance because it provides real-time financial information thereby enhancing accountability and transparency, acts as a deterrent to fraud and corruption, and reduces political discretion.

Note that the GoK indicated that all its ministries have fully functioning IFMIS system, yet irregularities in the utilization of public resources are still rampant. 2016 witnessed some of the major corruption scandals in the Kenya history. A common phenomenon in all the scandals was billions of shillings were stolen through the IFMIS system. In 2016, more than sh. 1 billion was stolen through manipulation of the IFMIS system in what was commonly referred to as the National Youth Service (NYS) scandal. Similarly, some senior officials in the Ministry of Health masterminded misappropriation of sh. 5.5 billion in what was called the Afya House Scandal (Guguyu, 2017). A report published by the Daily Nation on 27 November 2016 reveals that senior officials in one of the agencies in the Ministry of Health made efforts to steal Sh. 30 million through manipulation of IFMIS (Leftie, 2016). The report further indicates that the theft attempt was made in May 2016 but it was detected and stopped at the last minute as senior accounting officials prepared payment for the non-existent supplies. In another instance, Mr. Chepkwon, a whistle blower at the Ministry of Health, informed Mr. Maruguri, the permanent secretary, of on interception he had made on 19<sup>th</sup> May 2016 of fake payment vouchers amounting to Shs. 18,249,000. The dubious payments were for supply of chemicals and reagents (Leftie, 2016). Another report published by the Ethics and Anti-Corruption Commission of Kenyan on 26 October 2016 revealed that top officials in the Ministry of Health managed to steal

over sh.5 billion through a mega scandal that involved diversion of funds, double payment for supply of goods, and IFMIS manipulation. County governments have not been spared either. Kama (2016) explains that the Auditor-General 2016 report indicated that 24 counties could not account for sh. 140 billion received from the national treasury. Kilifi County Government alone could not account for sh. 90 million. The auditor issued adverse reports on Kakamega and Kirinyaga Counties. Besides the missing millions, the auditor could not establish the whereabouts of assets worth sh. 26 billion in the 24 counties. Furthermore, the counties owed suppliers more than sh. 5 billion (Kamau, 2016).

It is against this background that this study intends to examine the role of Integrated Financial Management Information System adoption on procurement performance in government ministries in Kenya: a case of the Ministry of Health. It is troubling to note that state ministries have fully implemented IFMIS system yet billions of taxpayers' money continues to be stolen by state officials through manipulation of the IFMIS system. To what extent is the IFMIS system satisfying its role of ensuring transparency, accountability, and effective utilization of public resources? What should be done to ensure that the IFMIS system functions effectively?

### **Research Objectives**

The general objective of this study will be to examine the role of IFMIS adoption on procurement performance in government ministries in Kenya: a case of the Ministry of Health. The specific objectives were:-

- To investigate the effect of government policy in IFMIS on procurement performance in government ministries in Kenya;

- To determine the influence of staff competence in IFMIS on procurement performance in government ministries in Kenya;
- To establish the effect of ICT infrastructure in IFMIS on procurement performance in government ministries in Kenya
- To assess the effect of top management commitment in IFMIS on procurement performance in government ministries in Kenya.

## LITERATURE REVIEW

### Theoretical Review

#### Technology Acceptance Model

This study will use Technology Acceptance Model (TAM) to investigate the role of technological infrastructure on IFMIS adoption among government ministries in Kenya. TAM was developed by Davis (1989) and Warshaw (1992). It is an information systems theory that models how users accept and use technology advancement. The model assesses how ICT is adopted with special emphasis on user acceptance of the ever expanding information technology. TAM is composed of two wide theoretical frameworks, inter alia, Perceived Ease of Use (PEOU) and perceived usefulness (PU). Davis (1989) defines PU as the degree to which people trust a system and believe that using it will enhance their job performance. On the other hand, he defines PEOU as the degree of easiness people are likely to have in using information system. In this regard, he asserts that PU influences both attitude and satisfaction towards technology while PEOU influences PU and adoption intentions. Warshaw (1992) explains that the two frameworks play critical roles determining how information system is accepted and remains relevant.

#### Resource Based View Theory (RBV)

This study intends to use RBV to assess if staff competence affects IFMIS adoption among

government ministries in Kenya. The theory proposes that resources are the most imperative determinants of firm performance (Hax, n.d). However, for resources to be superior, they must demonstrate VRIO attributes; valuable, rare, costly to imitate, and organized to capture value (Wernerfelt, 1984). With these attributes, the resources give a firm sustainable competitive advantage. The model was pioneered by Wernerfelt, B., Prahalad and Hamel, and Barney in their publications: The Resource-Based View of the Firm, The Core Competence of The Corporation, and Firm Resources and Sustained Competitive Advantage respectively (Wernerfelt, 1984). The model postulates that firm resources are most important aspects that determine its performance. The proponents of the model argue that firms need to focus on internal factors to find ways of competitive positioning (Hax, n.d). It is also worth noting that the human resource is the most valuable assets of an organization (Mburu & Njeru, 2014). In reference to PPP and PP, competence, experience, legitimacy, and transparency in the personnel handling the procurement function ensures that contracts are awarded to the most competitive bidder. Quality is assured if contracts are awarded on the basis of merit.

#### Institutional Theory

This theory proposes that the institutional environment plays a critical role in influencing the development of formal structures in organizations (Amenta, 2003). They further indicate that institutional environment is plays more significant role than market pressures. Firms have innovative structures that promote technical efficiency, which are legitimized by the environment (Amenta, 2005). In the long-run, the innovations reach a legitimization level where failure to adopt them is perceived as negligence and irrationality. At this point, existing and new firms are likely to adopt

structural form even when the form is less likely to improve efficiency (Amenta, 2003).

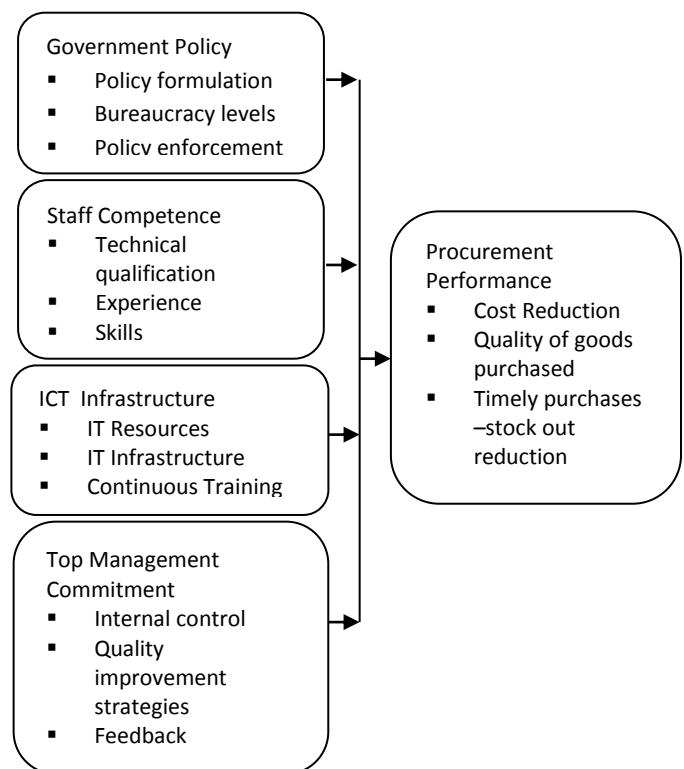
Proponents of the theory argue that often times, institutional myths are merely accepted ceremoniously in an effort to enable the organization to maintain or gain legitimacy in the institutional environment. Organizations favor the “vocabulary of structure” that is most suitable in their environment such as procedures, specific job titles, and organizational roles (Amenta, 2005). The prominent display of the institutionally-favored “trappings of legitimacy” preserves an aura of organizational action on the basis on “good faith”. It is imperative to note that legitimacy in the institutional environment assist in establishing and sustaining organizational survival (Amenta, 2003). This study will adopt the theory in assessing the impact of top management commitment on IFMIS adoption among government ministries in Kenya.

### Upper Echelon Theory (UET)

To assess if government policy affect IFMIS adoption among government ministries in Kenya this study intends to use UET. The theory is based on the behavioral theory of a corporation, the bounded rationality notion, and selective perception. Simon (2007) explains that the nature of the challenges that strategic decision makers face calls the use of rational economic models. Additionally, the choices organization leaders make has behavioral component, which in a way reflects personal idiosyncrasies. Dearborn & Simon (2008) explain that in the upper-echelons model, the impacts of the idiosyncrasies are treated in a similar way that Whittington (2008) proposes the effect on individual preferences and information of action determinism.

Since the publication of the theory, many researchers have produced evidence to evidence that support the correlation between the top-management and team characteristics (Norburn &

Birley, 2008; Thomas et al., 2001). Additionally, Gabarro (2007) indicates that there is a close relationship between top-management team tenure and strategy. Ultimately, the UET creates a link between the top management team with company efficiency. It identifies ingredients such as frequency of meeting attendance, commitment, level of involving every employee in information requirement analysis, and the level of consultation in decision making. Overall, the theory acknowledges that organizations need to support the basic premise of UET. The organization’s strategies and performance is a practical reflection of its top managers’ idiosyncrasies and biases.



**Independent Variables**  
**Variable**

**Dependent**  
**Variable**

**Figure 1: Conceptual Framework**

### Government Policy

Fundamentally, the nature of a government policy determines how effective state ministries can be in

generating the expected outcome. Poorly formulated policies are challenging to implement and are likely to cause conflicts within the organization (Christopher, 2005). Thus, the success of all public policies is determined at the policy formulation stage. All variables must be considered appropriately. This notwithstanding, theory indicates that great challenges arise during policy implementation. However, with proper bureaucracy and reporting lines, extensive consultation is possible, which counters majority of the challenges (Errigde & McIlroy, 2002). Organizations need to establish bureaucratic problem solving approaches that are designed to improve efficiency and effectiveness.

### **Staff Competence**

Competence in the labor force refers to ability, capability, and underlying characteristic of individuals working for an organization, which is directly related to efficiency, effective, or superior workplace performance (World Economic Forum, 2005). In this study, competence was used to refer to applied knowledge and skills, behavior, and performance delivery required to get things done in the most appropriate way in the procurement department. This study categorizes competence into two, inter alia, behavioral and technical competence (Karanja&Mugo, 2010). Public procurement professionals must work hard to achieve three competing demands of meeting the interest of the public with key themes of efficiency, effectiveness, money, and economy; the regulatory interest with key themes of transparency, competition, and compliance; and the social interests with key themes of employment concerns, public interest, social exclusion, environmental policy, and economic development (Kelchner, 2015). In order to meet these demands, state corporations need to constantly look for employees who have the needed skills to deal with the wide

range of tasks in the procurement and purchasing function (World Economic Forum, 2005).

### **ICT Infrastructure**

The success of IFMIS implementation plays a critical role in determining its reliability. Additionally, ICT is always advancing. Thus, information systems need regular update. To necessitate this, state ministries need to have the needed infrastructural capacity. Sufficient finance, technical team, IT equipment, and regular training to the workforce is needed to ensure sustainable service delivery. To accomplish this revitalization, governments are introducing innovations in their organizational structures and practices, and in the ways in which they mobilize, deploy and utilize human, financial and ICT resources (United Nations 2011). The use of ICT in the public sector, or e-government as it is known, is playing a critical role in governments' efforts to revitalize their public sectors.

Modern ICT is a significant strategic tool for lifting public sector performance, offering benefits of greater efficiencies and effectiveness in government operations and service delivery, improved communication and coordination across organizational boundaries and levels of government, and greater transparency and accountability in government functions( Ameen & Ahmed, 2011). Consequently, over the past 10 to 15 years, governments around the world have utilized information and communication technologies, particularly digital technology (OECD 2009) which has significantly changed the ways in which. A second key issue that has emerged is achieving greater citizen engagement in public policy processes through the latest Web 2.0 tools. E-government is no longer viewed only as the provision of information or services via the internet but as a way of transforming how citizens interact with government and how government interacts with itself (Rose and Grant 2009).



### **Top Management Support**

It is expected that state corporations are managed for the benefit of the general public. Thus, continued satisfaction of the public should be the ultimate goal of the management. In this regard, the executive management must be involved in every project (Christopher, 2005). Note that involvement and full participation of the executive management determines the level of success of the project. Having mentioned this, the executive management should understand its full responsibility of installing a comprehensive internal control system designed to ensure transparency in decision making at all levels (Balgescu & Young, 2005). Additionally, it needs to design a feedback system for all projects. More important, public participation is imperative. It is a reliable source of getting feedback, which should be used in TQM.

### **Procurement Performance**

Ultimately, IFMIS is supposed to ensure efficiency, effectiveness, transparency, and accountability in utilization of public resources. It is imperative to note that IFMIS influence PP only if the identified independent variables are executed fully. Note that the most important resource that the procurement function handles is finance (Balgescu & Young, 2005). Thus, if IFMIS ensure transparency and accountability the procurement department has most of its tasks sorted. Indicators of proper procurement performance include efficiency of the procurement process, openness of the procurement process, professionalism of the procurement personnel, and contract management and supplier performance. Efficiency in procurement can be measured in terms of transaction costs and time of procurement procedures. Efficiency can be measured through the use of e-procurement and of aggregation vehicles like framework agreements and consolidated contracts (Christopher, 2005). Openness is understood as the fair and equal treatment of participants in the procurement

process. It includes public disclosure of procurement rules; publication of procurement opportunities; publication of the results of the procurement processes, of contract modifications and of justifications for the use of procurement methods other than open tendering. If the procurement workforce is not equipped to handle the increasing complexity of procurement, officials will not be able to maximize value for money and implement the goals of national procurement strategies. Capacities and training of the workforce are indicators for the performance of a procurement system. Contract management and supplier performance can be measured in terms of delivery management, relationship management and contract administration (Balgescu & Young, 2005).

### **Empirical Review**

IFMIS and the procurement function are not new topics. Various studies have so far been conducted (Nyabuto, 2009; Kakwezi & Nyeko, 2010; Kimwele, 2011). Nyabuto (2009) studied the extent of IFMIS implementation as a tool of sustainability of managing finances in the GoK. It was a survey designed study that found out that the government ministries demonstrate resistance towards adoption of the information system. On the other hand, Kakwezi & Nyeko (2010) studied procurement process and performance. His study keenly focused on efficiency and effectiveness of the procurement departments in state corporations in Uganda. Results indicated that besides financial measures, non-financial aspects contribute significantly in the performance of the procurement function.

A similar study was undertaken by Kimwele (2011). It focused on factors that deter implementation of IFMIS in the GoK. The researcher noted that majority of the state corporations show a reserving behavior towards IFMIS implementation.

Spriano (2013) studied the success and failures of e-government projects in developing countries. His case study was Zambia. He found out that state corporations in the country had an average rating score of 55.1 based on Heeks point scale, which translates to a partial or mighty fail. Additionally, the researcher noted that public awareness of the e-government projects was inadequate. Mbae (2014) studied the impact of public procurement law on procurement performance of Machakos County Government. Results indicated that unethical practices, political forces, dishonesty, and lack of transparency and accountability among the procurement officials affect the performance of the department. In the same spirit, Maoki (2014) studied factors influencing implementation of Public Procurement and Disposal Act in the Kenyan Judiciary. He found out that ICT adoption, accountability, staff competence, and stakeholders ethics influence the success of the implementation of the Act.

Karani (2014) assessed procurement methods and PP among state corporations in the National Treasury of Kenya. He noted that procurement methods have a significant impact on procurement performance of the corporations. Nasra (2014) investigated the relationship between PP and operations efficiency in the Kenyan telecommunication industry. Results indicated that flexibility in the procurement functions ensures better PP. Lastly, Mutui (2014) studied the effects of the implementation of IFMIS on PP in Kenyan Government Ministries. It noted that there is moderate extent of IFMIS implementation in the ministries.

## METHODOLOGY

Saunders et al (2012) explains that a research methodology is a critical aspect of any studies because it defined the model that is followed in an effort to respond to the study objectives.

Descriptive research design was ideal for this study because it allowed the study to examine the relationship between IFMIS and procurement performance. The study specifically targeted the ministry departments that directly interact with the IFMIS system. The Multiple Regression model that aided the analysis of the variable relationships were as follows:  $Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$ ,

Where,  $Y_i$  = Procurement Performance;

$\beta_0$  = constant (coefficient of intercept),

$X_1$  = Government Policy;

$X_2$  = Staff Competence;

$X_3$  = ICT Infrastructure;

$X_4$  = Top management support;

$\epsilon$  = Error term;

$\beta_1 \dots \beta_4$  = regression coefficient of four variables.

## FINDINGS AND DISCUSSIONS

### Government Policy

The study sought to establish the extent to which respondents agreed with the statements relating to influence of government policy in IFMIS on procurement performance in government ministries in Kenya. A scale of 1-5 was used. The scores "Very small extent" and "Small extent" were represented by mean score, equivalent to 1 to 2.5 on the continuous Likert scale ( $1 \leq \text{Small extent} \leq 2.5$ ). The scores of 'Moderate extent' were represented by a score equivalent to 2.6 to 3.5 on the Likert scale ( $2.6 \leq \text{Moderate} \leq 3.5$ ). The score of "Great extent" and "Very great extent" were represented by a mean score equivalent to 3.6 to 5.0 on the Likert Scale ( $3.6 \leq \text{Great extent} \leq 5.0$ ). The mean was generated from SPSS version 21 and is as illustrated in Table 1.

From the research findings, majority of the respondents indicated that to a moderate extent that the existing IFMIS policy influence its performance as shown by a mean of 3.562; the

government ensure that there is compliance on the usage of IFMIS in the organization as shown by a mean of 3.545; there is implementation of policy in regard to use of IFMIS in the organization as shown by a mean of 2.981. The respondents to a moderate extent indicated that the existing IFMIS policy influence its performance as shown by a mean of 3.785. Therefore, study results established that government policy influence performance of IFMIS in the organization. It is important to have clear legal guidance on the roles and responsibilities of all institutions involved in the implementation of an IFMIS. According to Dzidonu(2011), a government

policy which is a legislative framework consists of the constitution, finance act and regulations, and needs to include: the roles and responsibilities, of the treasury, and other departments responsible for the control and management of public finance, the main form of government funds, receipt and custody of public funds, the annual process, submission and approval of estimates and the procedures for release of funds, the basis of accounting and the form of annual accounts for audit and presentation enhance procurement performance through IFMIS.

**Table 1: Influence of Government Policy on Procurement Performance**

Statement	Very small extent	Small extent	Moderate	Great extent	Very great extent	Mean	Std deviation
The existing IFMIS policy reduction of procurement costs	3.5%	14%	70.5%	6.5%	7.5%	3.562	0.02
The government ensures that there is compliance on the usage of IFMIS in the organization?	6.5%	18%	57.5%	7%	11%	3.545	0.39
There is implementation of policy in regard to use of IFMIS in the organization	6.5%	62..5%	16.5%	6.5%	8%	2.981	0.46
The rule and regulations on the usage of influence performance of IFMIS enhance reduction of procurement costs	5.5%	11%	16.5%	57.5%	9.5%	3.785	0.63
The existing guidelines influence timely and quality of goods and services	7.5%	6%	9%	2.5%	91.5%	4.555	0.22

**Staff Competency**

This section presents findings to survey questions asked with a view to establish the influence of staff competency on procurement performance in government ministries in Kenya. The respondents were asked how many times the organization have their procurement staff taken for refresher courses annually, 0% of the organization never takes procurement staff for refresher courses Implies all organization have them taken at least once a year. 3%, had 1 to 2 times annually, 65% of the

respondents had 3 to 4 times, 11% of them had 5 to 6 times and 11%, had over 6 times of rejections. The modal class is of the respondents who had taken their staff for refresher courses 3 to 4 times. This implies that on average the respondents take their procurement staff for refresher courses at least 3 to 4 times annually.

Additionally, the study inquired from the respondents the percentage of procurement staff who had not achieved at least an undergraduate degree, 46% of the respondents had no employee in

this category, 3% had 1-20% in this category, 14%, 21 to 40 in this category, 11%, 10 to 60 in this category, 3% , had over 60% in this category. The modal class is of the respondents who had 0% of employees in the category of those had not achieved a first degree. This implies that on average the organization have 0% of employees who haven't achieved an undergraduate degree. This further implies that on average organization employ procurement staff with at least a first degree.

Finally, the study looked at the quality of reports that are produced, the respondents were to state the level of quality of the procurement reports produced. 0% of the respondents had 0-20%, 3%, had 21-40%, 3% of the respondents had 41-60%, 9% of them had 61-80% and 65%, had over 80% score in the quality of the procurement reports produced. The modal class is of the respondents who had over 80% score in the quality of the procurement reports

produced. The median was found to be 5 which implies that on average the institutions had over 80 score in the quality of the procurement reports produced. The second indicator inquired the percentage of procurement employees that have professional skills in procurement, 0% of the respondents had 0-20%, 3% had 20-30%, 11% had 30-40%, 37% had 40-50% and 46% had over 50% of employees with professional skills in procurement. The modal class is of the respondents who had over 50% employees. This implies that on average the respondents had over 50% of procurement employees with professional skills in procurement. Staff competency and training is the process of identifying and developing the necessary knowledge and skills required for doing a job. Training facilitate staff competency is learning provided in order to improve performance on the present job (Armstrong 2008).

**Table 2: Influence of Staff Competency on Procurement Performance**

	Never time	1-2 times	3-4 times	5-6 times	Over 6 times	Mode
How many times are your procurement staffs taken for refresher courses annually?	0	29%	65.7%	11.40%	2.90%	3
	0%	10%	20%	40%	Over 40%	
Percentages of employees with a first degree.	45.70%	2.90%	14.30%	11.40%	2.90%	1
Percentage quality of procurement records produced.	0	2.90%	2.90%	25.70%	65.70%	5
What percentage of employees has professional skills in procurement?	0	2.90%	2.90%	37.10%	45.70%	5

**ICT Infrastructure**

This section presents findings to survey questions asked with a view to establish the influence of ICT infrastructure on procurement performance in the

organization On the extent to which ICT infrastructure influenced the procurement performance in the organization, the findings are presented in the Table 3. The data was collected from the different indicators of the ICT infrastructure variable which was ordinaly categorical. The data was therefore presented in frequency tables with the median being used as the appropriate measure of central tendency. Information Communication technology infrastructure had the first indicator that required the organization to have adequate networks to state the percentage of 30% of the respondents had 0-20% , 2.90% had 20-30% , 14.30% had 30-40% had 8.70% , 40-50% and 5.10% had over 50% The modal class is of the respondents who had between 0 to 20%adequate and accessible networks. The mode was found to be 1 which implies that on average the respondents 0 to 20% of the organization had adequate and accessible networks

When the respondents were asked in the second question what the organization level of automation was, 2.90% of the respondents had 0-20%, 2.90% had 20-30%, 5.70% had 30-40%, 31.10% had 40-50% and 45.60% had over 50%. The mode was found to be 4 which implies that on average the organization had over 40%-50% level of automation. The next indicator asked the respondents what the level of procurement systems usage was in the organization, 0% of the respondents had 0-20%, 2.90% had 20-30% , 5.70% had 30-40% , 37% had 40-50%, 45.70% had over 50%. The mode class is of the respondents who had over 50% level of procurement usage. The mode was found to be 4 which imply that on average the organization had over 50% level of procurement systems usage.

When the respondents were asked what the level of soft ware and hardware was, 2.90% of the

respondents had 0-20%, 2.90% had 20-30% 5.70% had 30-40% , 37.10% had 40%-50%, 51% had over 50% " The modal class is of the respondents who had over 50% level. The mode was found to be 5 which imply that on average the organization had over 50% level of software and hardware. The last indicator for the variable hardware and software inquired what the organization level of embracement of E-procurement was 0% of the respondents 0-20%, 3% had 20-30% , 3% had 30-40% , 31% had 40-50% and 60% had over 50% " The modal class is of the respondents who had over 50%. The median was found to be 5 which imply that on average the firms have over 50% level of embracement of E-procurement. Information Communication Technology (IT) is a technology that involves use of computers, software and internet connections infrastructure for supporting information processing and communication functions (Crompton 2007). The use of information technology in public sector has not been effectively implemented since most of the procurement functions are subjected to manual procedures that are slow, inaccurate and infective. This has negative impact on procurement procedures since the public sector organizations cannot effectively monitor and coordinate procurement procedures of all road construction projects, there is lack of computerized procurement procedures and this subjects much of procurement functions to manual operations which are slow and ineffective. The use of computerized procurement systems demonstrates efficient use of information technology but in cases where the organization subjects all it's procurement functions to manual procedures, the benefits of information technology are not experienced and a high level of inefficiency is experienced during execution of procurement procedures.

**Table 3: Influence of ICT Infrastructure on Procurement Performance**

	0%-20%	20%-30%	30%-40%	40%-50%	Over 50%	Mode
What percentage of the organization ICT networks?	53.30%	2.90%	14.30%	8.70%	5.10%	5
What is the firm's level of automation?	2.90%	2.90%	5.70%	31.70%	48.60%	4
What is the level of procurement systems usage?	0%	2.90%	5.70%	37.10%	45.70%	4
What is the level of software and hardware?	2.90%	2.90%	5.70%	37.10%	48.60%	5
What is the firm's level of embracement of E-procurement?	0%	2.90%	2.90%	31.40%	60%	5

### Top Management Support

The study sought to establish the influence of top management support on procurement practices in government ministries in Kenya. Respondents were thus asked to indicate the extent to which they agreed with various statements relating to top management support and its influence on procurement practices in government ministries in Kenya. Responses were given on a five-point scale where: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4 = Agree; 5= Strongly Agree. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' has been taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0. Table 4 below presents the findings.

With a grand mean of 3.874, a majority of respondents can be said to have highly agreed with most statements posed as regards influence of top management support on procurement practices in the government ministries in Kenya. A majority particularly highly agreed that Top management are committed to staff development and career enhancement (4.115); Top management encourage collaborative relationships with supplier for or innovative supply chain performance (4.042); Top level management train employees on the use of quality Statistical and control tools (3.957); employees in the organization are frequently trained on total quality Management programs (3.923); Top management are in the fore front to initiate a culture of quality in the organization processes (3.751); Top management make efforts to standardise the Supply chain processes that enhance quality in the organization. (3.713). Top management is willing to take accountability for inventory management and delivery time lines (2.898). Top management are committed to staff development and career enhancement (2.3680).

**Table 4: Influence of Top Management Support on Procurement Performance**

Statements	Mean	Std. Dev
Top management are committed to staff development and career enhancement.	3.672	.2386
Top management encourage collaborative relationships with supplier for or innovative supply chain performance.	2.908	.3282
Top level management train employees on the use of quality Statistical and control tools.	3.245	.4520
Top management are in the fore front to initiate a culture of quality in the organization processes.	2.898	.2219
Top management make efforts to standardise the Supply chain processes that enhance quality in the organization.	2.874	.4269
Top management are willing to take accountability for inventory management and delivery time lines.	4.532	.3608
Top management are committed to staff development and career enhancement.	3.218	.2185

**Procurement Performance**

The study sought to determine procurement performance in government ministries with reference to Ministry of Health, attributed to the influence of government policy, staff competency, ICT infrastructure. The study was particularly interested in three key indicators, namely Quality of goods purchased, Cost reduction and Timely Purchases-stock out reduction, with all the three studied over a 5 year period, running from 2012 to 2016. Table 5 below presents the findings.

Findings in Table 4 above reveal improved procurement performance across the 5 year period running from the year 2013 to 2017. Quality of goods purchased recorded positive procurement performance with a majority affirming to less than 10% in 2012 (42.3%) and 2013 (37.7%), to 10% in 2014 (36.1%) then more than 10% in 2015 (41.1%) and 2016 (37.5%). A similar trend was recorded in cost reduction, procurement performance from less

than 10% (44.1%) in 2012, to more than 10% in 2013 (36.4%), 2014 (40.4%) and 2016 (37.3%). Timely Purchases-stock out reduction further recorded positive procurement performance with a majority affirming to less than 10% in 2012 (37.9%) and 2013 (35.9%), to 10% in 2014 (35.9%) and 2016 (35.3%) then by more than 10% in 2016 (36.2%). It can be deduced from the findings that key procurement performance indicators have considerably improved as influenced by among other procurement management attributes, the influence of government policy, staff competency, ICT infrastructure and top management support. The quality of goods purchased and timely Purchases-stock out reduction have particularly improved by at least 10 percent across the organization pointing to the significance of government policy, staff competency, ICT infrastructure and top management support in IFMIS on procurement performance in government ministries in Kenya.

**Table 5: Procurement Performance**

<b>Quality of goods purchased</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Increased by less than 10%	42.3	37.7	31.6	30.7	29.5
Increased by 10%	31.8	32.9	36.1	28.2	33
Increased by more than 10%	25.9	29.4	32.3	41.1	37.5
<b>Cost reduction</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Increased by less than 10%	44.1	35.2	33.4	25.7	27.1
Increased by 10%	31.7	32.6	30.2	33.9	35.6
Increased by more than 10%	23.5	32.2	36.4	40.4	37.3
<b>Timely Purchases-stock out reduction</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Increased by less than 10%	37.9	35.9	31.2	25.7	33.1
Increased by 10%	36.2	31.3	35.9	35.3	30.7
Increased by more than 10%	25.9	32.8	32.9	39	36.2

**Multiple Regression Analysis**

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the procurement performance in government ministries in Kenya. The study applied the statistical package for social sciences to compute the measurements of the multiple regressions for the study. According to the model summary Table 6, R is the correlation coefficient which shows the relationship between the independent variables and dependent variable. It is notable that there exists a strong positive relationship between the independent variables and dependent variable as shown by R value (0.865). The coefficient of determination ( $R^2$ ) explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable and the four independent variables that were studied explain 74.80% of the procurement performance in the government ministries in Kenya as represented by

the  $R^2$ . This therefore means that other factors not studied in this research contribute 25.20% to the procurement performance in the government ministries in Kenya. This implies that these variables are very significant therefore need to be considered in any effort to boost procurement performance in the government ministries in Kenya.

Further, the study revealed that the significance value is 0.003 which is less than 0.05 thus the model is statistically significant in predicting how government policy, staff competency, ICT Infrastructure and top management support influence procurement performance in government ministries in Kenya. The F critical at 5% level of significance was 44.297. Since F calculated (44.297) is greater than the F critical (value = 14.654), this shows that the overall model was significant.

Finally, the study ran the procedure of obtaining the regression coefficients, and the results were as shown on the Table 6. Multiple regression analysis was conducted as to determine the relationship between procurement performance in government



ministries in Kenya and the four independent variables. According to the regression equation established, taking all factors into account (government policy, staff competency, ICT infrastructure and top management support) constant at zero procurement performance in government ministries in Kenya was 1.608.

The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in government policy will lead to a 0.876 increase in procurement performance in government ministries in Kenya; a unit increase in staff competency will lead to a 0.768 increase in procurement performance in government ministries

in Kenya, a unit increase in ICT infrastructure will lead to 0.711 increase in procurement performance in government ministries in Kenya and a unit increase in top management support will lead to 0.677 increase in procurement performance in government ministries in Kenya. This infers that government policy contributed most to procurement performance in government ministries in Kenya. At 5% level of significance, government policy had a 0.000 level of significance; staff competency show a 0.003 level of significance, ICT infrastructure show a 0.006 level of significance and top management support show a 0.008 level of significance hence the most significant factor was government policy.

**Table 6: Multiple Regression Analysis (Overall)**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
<b>1</b>	.865	.748	.720	.015

**ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	34.765	4	8.6912	44.297	.003 <sup>a</sup>
	Residual	12.752	65	.1962		
	Total	47.517	69			

**NB:** F-critical Value = 14.654;

**Regression Coefficient Results**

Model		Unstandardized Coefficients		Standardized Coefficients	t	P-value.
		$\beta$	Std. Error	$\beta$		
<b>1</b>	(Constant)	12.756	1.608		7.933	.000
	Government Policy	.876	.122	.644	7.138	.000
	Staff Competency	.768	.125	.632	6.097	.003

ICT Infrastructure	.711	.142	.559	4.976	.006
Top management Support	.677	.148	.521	4.545	.008

As per the SPSS generated table above, the model equation would be  $(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon)$  becomes:  $Y = 12.756 + 0.876X_1 + 0.768X_2 + 0.711X_3 + 0.677X_4$ . This indicates that procurement performance in the government ministries =  $12.756 + 0.876(\text{Government Policy}) + 0.876(\text{Staff Competency}) + 0.768(\text{ICT Infrastructure}) + 0.677(\text{Top Management Support})$ .

### CONCLUSION AND RECOMMENDATIONS

The general objective of the study was to establish the role of integrated financial management information systems (IFMIS) on procurement performance in government ministries in Kenya with specific reference to Ministry of Health. The study specifically determined the influence of government policy, staff competency, ICT infrastructure and top management support. The reviewed literature showed that integrated financial management information systems (IFMIS) plays an important role in the procurement performance in the public sector. Further, it was revealed that the government policy, staff competency, ICT infrastructure and top management support significantly affected procurement performance in government ministries in Kenya. The major findings summarized from the four specific objectives were as follows:

From the research findings, majority of the respondents indicated that to a moderate extent that the existing IFMIS policy influence reduction of procurement costs. The government ensure that there is compliance on the usage of IFMIS and implementation of policy in regard to use of IFMIS. The respondents to a moderate extent indicated that the existing IFMIS policy influence its performance. It is important to have clear legal guidance on the

roles and responsibilities of all institutions involved in the implementation of an IFMIS to enhance procurement performance in the public sector. The study established that the organization procurement staff taken for refresher courses annually and employs procurement staff with at least a first degree. On average the institutions had a high score in the quality of the procurement reports produced. The procurement employees had professional skills in procurement. This implies that staff competency in the procurement process is necessary for identifying and developing the necessary knowledge and skills required for enhancing procurement performance in the organization.

From the study results, it was revealed that majority of the respondents to a moderate extent had enough computers for the staff to use for IFMIS in the organization and the organization ensured that IFMIS soft wares are available for the use by the staff. The respondents stated that to a small extent they got reference manual for use on the management of IFMIS. The respondents to a great extent did find the system to be complex in processing of information thus affecting service delivery. To a moderate extent the respondents indicated that the systems complicate very simple manual processes thus affecting efficiency of IFMIS and there was accessibility of IFMIS to all users at any time from anywhere. Finally the respondents to a small extent did have relevant security to access the systems. This reveals that there is lack of enough computers, accessibility and software's to enable the users perform their roles well thus affecting performance of IFMIS in the organization.

The study revealed that top management support affects the procurement performance in the government ministries to a great extent, top management encourage collaborative relationships with supplier for or innovative supply chain performance, top level management train employees on the use of quality statistical and control tools, top management are willing to take accountability for inventory management and delivery time lines, top management make efforts to standardise the supply chain processes that enhance quality in the organization, top management are in the fore front to initiate a culture of quality in the eorganization processes, and that top management are committed to staff development and career enhancement,, the study also established that the top managers must demonstrate their willingness to give energy and loyalty for supply chain to succeed, and that top management must communicate inventory management to the entire organization to create awareness, interest, desire and action

### **Conclusion**

The study concludes that government policy in IFMIS is an important factor that procurement performance in government ministries in Kenya. The regression coefficients of the study show that government policy has a positive significant influence on procurement performance in government ministries in Kenya. This implies that increasing levels of government policy would increase the levels of procurement performance in the government ministries in Kenya.

The study concludes that staff competency in IFMIS is an important factor that procurement performance in government ministries in Kenya. The regression coefficients of the study show that staff competency has a positive significant influence on procurement performance in government ministries in Kenya. This implies that increasing

levels of staff competency would increase the levels of procurement performance in the government ministries in Kenya.

Further, the study concludes that ICT infrastructure in IFMIS is an important factor that procurement performance in government ministries in Kenya. The regression coefficients of the study show that ICT infrastructure has a positive significant influence on procurement performance in government ministries in Kenya. This implies that increasing levels of ICT infrastructure would increase the levels of procurement performance in the government ministries in Kenya.

Finally, the study concludes that top management support in IFMIS is an important factor that procurement performance in government ministries in Kenya. The regression coefficients of the study show that top management support has a positive significant influence on procurement performance in government ministries in Kenya. This implies that increasing levels of top management support would increase the levels of procurement performance in the government ministries in Kenya.

### **Recommendations of the Study**

There is need to implement government policy on IFMIS as it influence performance of IFMIS in public sector. The existing IFMIS policy has not been well implemented thus the study recommends for effective compliance on the usage of IFMIS in the the public sector. This will reduce procurement costs; enhance timely deliveries and quality of goods and services.

To enhance procurement performance in in the public sector, there is need to have sufficient and qualified procurement personnel with enough training. There should be adequate training and simulation for key stakeholders especially the procurement staff. The government should offer

professional skills related to procurement and employ staff with the professional skills

The study recommends that the government to ensure that there is adequate ICT infrastructure with enough computers and software for the staff to use for IFMIS in the organization softwares are available for the use by the staff. The reference manual for use on the management of IFMIS should be available and the users should be trained for them to find the system to be easier in processing of information.

### Areas for Further Research

Due to constraints highlighted in the first chapter, this study could not exhaust all the elements of

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enhancing IFMIS on procurement performance in the government ministries in Kenya. The four independent variables that were studied explain 74.80% of the procurement performance in the government ministries in Kenya. This therefore means that other factors not studied in this research contribute 25.20% to the procurement performance in the government ministries in Kenya. Therefore other factors affecting procurement performance in the government ministries in Kenya need to be established. These may include the existing procurement planning, training; supplier relationship management among others needs further investigation.

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