

**INFLUENCE OF INTEGRATED FINANCIAL MANAGEMENT INFORMATION  
SYSTEM IMPLEMENTATION ON PROCUREMENT PERFORMANCE OF  
GOVERNMENT MINISTRIES IN KENYA**

**BY  
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## DECLARATION

I hereby declare that this dissertation is my original work and that it has not been presented in any other learning institution for academic purposes or any other reason except for the references.

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## **DEDICATION**

I dedicate this dissertation to the Almighty God who has been a major source of strength and wisdom. This work is also dedicated to my family for the enormous support, limitless encouragement and wise words that they shared with me while on this course.

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## ABBREVIATIONS AND ACRONYMS

<b>B2B:</b>	Business to Business
<b>CCG:</b>	Center for Corporate Governance
<b>EDI:</b>	Quality indexing
<b>EOQ:</b>	Economic Order Quantity
<b>ERP:</b>	Enterprise Resource Planning
<b>GDC:</b>	Geothermal Development Company
<b>GDP:</b>	Gross Domestic Product
<b>GoK:</b>	Government of Kenya
<b>ICT:</b>	Information and Communications Technology
<b>IFMIS:</b>	Integrated Financial Management Information System
<b>KenGen:</b>	Kenya Electricity Generating Company
<b>KIPPRA:</b>	Kenya Institute for Public Policy Research and Analysis
<b>NLC:</b>	National Land Commission
<b>PPRA:</b>	Public Procurement and Regulatory Authority

## OPERATIONAL DEFINITION OF TERMS

**Electronic Vendor Evaluation System:** The vendor evaluation system is realized through software which puts beside qualitative judgments and performance data and builds the database which will support the daily decisions of the procuring entity (Bradley, 2017).

**IFMIS:** Refers to an information system that tracks financial events and summarizes financial information (Martin, 2020).

**Online Payments System:** It is a subset of an e-commerce transaction to include electronic payment for buying and selling goods or services offered through the Internet. In this study this variable will be measured using indicators such as RTGS and EFT (Bird, 2021).

**Online Contract Management System:** It is the process of managing an on-going contract with a vendor using internet technology usually the internet itself (Dooley, 2017).

**Online Inventory Management System:** It is the system for tracking inventory levels, orders, sales and deliveries. It can also be used in the government ministries to create a work order and bill of materials which greatly improve the supply chain performance (Kar, 2021).

**Procurement Performance:** Performance comprises the actual output of an organization as measured against its intended outputs. Performance encompasses three specific areas of firm outcomes: financial performance (profits, return on assets, return on investment); product market performance (sales, market share); and shareholder return-total shareholder return, economic value added (Moon, 2017).

## ABSTRACT

IFMIS technology is a veritable tool for increasing productivity and empowering the public sector professionals to take better control of the procurement process. However, despite the administrative and managerial benefits obtainable by the adoption of IFMIS, the challenges and associated risks are rife. The purpose of the study was to assess IFMIS implementation and its impact on procurement performance of government ministries in Kenya with an aim of making recommendations on proper use of IFMIS. The study was guided by the following specific objectives; to establish how online inventory management, electronic vendor evaluation, online payments and online contract management influence procurement performance. The study was guided by the following theories; the technological acceptance model, partnerships theory, Schumpeterian theory of creative destruction and dynamic capability theory. To achieve this, the study reviewed both theoretical and empirical literature and proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. This study adopted a descriptive research design approach. The study used a sample size of 156 procurement officers. Census was used in this study. The study prefers this method because it allowed an in-depth study of the subject. To gather data, structured questionnaire was used. Once collected, data was analyzed using descriptive and inferential statistics. Quantitative data was analyzed using multiple regression analysis. The qualitative data generated was analyzed by use of Statistical Package of Social Sciences (SPSS) version 22.0. The response rate of the study was 76%. The findings of the study indicated that online inventory management system, electronic vendor evaluation system, online payments system and online contract management system have a positive relationship with performance in the government ministries. Finally, the study recommended that the government ministries should embrace IFMIS implementation so as to improve procurement performance and further researches should to be carried out in other institutions to find out if the same results can be obtained.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Globally, internet technology has provided organizations with vast opportunities to operate beyond their traditional physical boundaries. More specifically ICT platforms such as IFMIS have provided firms with more efficient solutions to drive significant value into their business (Premkumar, 2021). Indeed, in 2021 one of the major advocates of internet-based business strategies, Michael Porter, professed that if firms were intent on remaining competitive, they would have to adapt their business models to accommodate more effective and efficient internet-based business approaches (Lavelle & Bardon, 2021).

Role of IFMIS in procurement functions is understood to benefit businesses by reducing operation costs, helping the improvement of geographically discrete markets and improving synchronization between cooperating parties (Sanders, 2017). These benefits have been evaluated in a number of studies on large and mid-sized firms. However, the mere role of IFMIS in procurement does not ensure superior performance because it is a challenge to translate IFMIS related organizational resources into collaborative process capabilities (Ribeiro, 2019). According to research conducted by Moon (2017) companies realize far less benefits of IFMIS than expected. This affirms that most firms merely achieve communication improvements and may even suffer from increased competition from companies in the same industry.

Regionally, according to Issa, Flood and Caglasin (2018), the majority of organizational spending consists of purchasing. In order to decrease the total costs spent on purchasing process, internet technologies are used and IFMIS has become popular to implement in the latest era by both governments and enterprises. Although the opportunities for improvement seem abound, both private and public sector are still cautious as far as the adoption of electronic technologies is concerned. The development and implementation of electronic commerce business models, such as an IFMIS portal in organizations is a challenge that goes beyond mere technological functionality (Davila, Gupta & Palmer, 2018) organizational adaptation, and training of employees are examples of critical issues for the successful implementation of any IT-system.

Locally, Mutua (2017) affirms that in general, the many industries, are now becoming interested in the benefits of IFMIS. However, the practical reality is that despite the strategic necessity and inherent benefits from IFMIS proposed by academic theorists, and in some cases dictated by larger corporations, issues such as level of technical expertise and the extent of competitive pressures may affect the extent of adoption of the internet technologies that facilitate online procurement (Croom & Brandon-Jones, 2017). According to Croom and Brandon (2019), adoption of e-procurement technology in an organization enables a firm to organize its interactions with its most crucial suppliers, a set of built-in monitoring tools to help control costs, assure maximum supplier performance and keeping an open line of communication with potential suppliers during a business process all of which contribute to the attainment and sustenance.

### **1.1.1 Integrated Financial Management Information System**

In the use of IFMIS many studies have concentrated in the USA and other large economies such as Germany and Japan. Despite the compelling nature of the case for public sector ICT procurement practices that has been made both by formal, governmental-sponsored reviews, and perhaps more importantly through the positive experiences of private sector organizations, there is very little evidence that it has been widely adopted within the UK public sector. IFMIS and related solutions make purchasing activities more effective in terms of both time and cost. ICT is changing the way businesses purchase goods (Laryea & Ibem, 2017).

Since most products and services are procured using electronic data interchange and the internet, the application of online procurement is inevitable in both all economic sectors with contributions focusing upon its uptake in the US and the UK. According to Aboelmaged (2021) a serious subject of doubt is that the availability of the facilities necessary for participation in IFMIS implementation by government practitioners is in question. Most procurement professionals in Nigeria make use of stand-alone computers running few application packages for word processing and spread sheeting. A moderately high level of proficiency in the use of ICT tools such as IFMIS is also a pre-requisite for the use of procurement facility by stakeholders.

The inappropriate introduction of IFMIS carries high risks of market fragmentation in Uganda (Kakwezi, (2018). The legal, technical and organizational barriers that may result from procurement online are one of the greatest challenges for policy makers. Despite that,

the Public Procurement Act 2004 and ICT Policy of 2003 do not provide adequate legislative framework for the application and harmonization of online procurement in the Ugandan government. However, the newly enacted Public Procurement Act (2019) has included some provisions mandating government ministries to initiate online procurement through IFMIS in the country but they are not adequate enough to fast track the process. Kenya's trade liberalization has accelerated since the early 1990s, thus stimulating imports and improving access to alternative and superior technologies. With the advent of globalization and global financial crisis, adopting information and communication technology in Kenyan government ministries have become increasingly important. For example, national gender and equality commission has adopted systems such as IFMIS in its procurement processes (Amayi, 2019). On the other hand, the judicial service commission has an online tendering portal (Maina, 2019). The manual processes are costly, slow, inefficient and data storage and retrieval poor. This proposal sought to determine online procurement practices in public sector, find the factors for slow adoption, existing models in use, and then develop a model for the Kenyan public sector.

### **1.1.2 The Principle of Performance**

The increasing level of competition and globalization in the world economy has a major impact on the need for organizations to improve their procurement performance. Many companies pay millions of dollars in order to improve their procurement performance through process reengineering, new systems and training their employees (Aldrich & Herker, 2019). Effective management of the function prevents the possibility of poor performance and when attributed to non-adherence to proper procurement processes and procedures; is an indicator of poor management of the procurement function (Thai, 2017). Procurement encompasses the whole process of acquiring property and/or services. It begins when an agency has identified a need and decided on its procurement requirement (Kakwezi & Nyeko 2020).

Therefore, effective management of the procurement function is a precursor to the performance of the system in achieving its intended objectives and that of the organization as a whole. Performance standards when adopted can provide the decision-makers in the procurement department with unbiased and objective information regarding the performance of the procurement function. The evaluation or measurement of procurement performance has always been a vexing problem for

procurement professionals (Rotich, 2011). He asserts that traditionally, firms concentrate on analyzing their own internal trends which does not portray the true picture on how they compare well with competitors. Such an approach ignores what the competitors are doing.

A firm does not wish to make known to its competitors how or what it is doing for obvious competitive reasons. This has been the case in the public sector where procuring entities have not been making available their procurement data due to the sensitive nature of the data. Maina (2011) underscores these facts and concludes that one of the major setbacks in public procurement is poor procurement planning and management of the procurement process which include needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff responsible for procurement. Procurement performance is not usually measured in most PEs as compared with the human resource and finance functions. A number of studies have been conducted on IFMIS globally. For instance, Doyle (2017) conducted a survey on 174 firms in the UK and found out that though 92% claimed IFMIS seemed to have reduced transaction costs. In Malaysia, for instance, Rashid and Aslam (2018) conducted a study to assess the impact of IFMIS on business performance in Malaysia.

In Nigeria, the study conducted by Wever, Wognum and Omta (2019) on supply chain practices identified IFMIS as a critical supply chain activity that every organization must engage in. Kakwezi and Nyeko (2019) associated procurement performance with IFMIS procurement operations. On the other hand, Gunasekaran, Patel and Tirtiroglu (2016) pointed out that IFMIS is associated with reduced procurement costs and improved achievement of procurement organizational goals respectively. Cadbury Kenya announced that it will close down its manufacturing plant in Nairobi due to lack of IT related infrastructure (RoK, 2017). In the full-year to September 2018 results, Eveready's net profit fell 58.7 per cent to \$493,237 from \$784,783 the previous year. Its production capacity dropped down from a previous high caused by lack of IFMIS related contingencies (RoK, 2017). Tata Chemicals Magadi scaled down its operations due to lack of reliable IT systems (Kandie, 2017).

## 1.2 Statement of the Problem

The field of procurement the largest single category of spend expenditure, ranging from 50% to 85% of revenue (World Bank, 2021). The interest in this topic has emanated from many drivers, including trends such as rampant delay in delivery, low quality products and dissatisfied customers (Kirungu, 2018). In a bid to restructure the government to facilitate better provision of services and better systems of accountability, the 2019 Constitution seems to have created a fourth arm of the government that of government ministries which collectively have far reaching functions and mandates (GoK, 2020). These institutions in Kenya have been experiencing a myriad of problems including low quality goods, overpriced procurement contracts and gross mismanagement (Rotich, 2019). According to statistics from the World Bank (2018) there was a 42.7% drop in profits to Sh629 million from Sh1.64 billion a year earlier at Geothermal Development Company (GDC) and the public sector in general recorded a decline in performance. A report by CCG (2019) indicates that in some state corporations such as Kenya Electricity Generating Company (KenGen), the total operating expenditure increased by 2% compared to similar period in 2019.

According to National Land Commission (NLC), customer satisfaction survey of 2019, 2018 and 2017, it is notable that the percentage index has been fluctuating that is, 65%, 53% and 46% respectively (Kirungu, 2018). NLC faces a major challenge in controlling the overall operating cost because of the constant increase of sourcing cost; this is evident by NLC posting an increase in expenses of Ksh 6 billion compared to Ksh 4 billion noted in the previous year according to a (NLC) 2018 annual report. Productivity of public sector institutions is quite low while at the same time they continue to absorb excessive portion of the budget, becoming a principal cause of long-term procurement problems (KIPRA, 2019). In fact, a parliamentary committee reports that out of many reports examined by the Auditor General, only few government ministries managed a clean bill of health (CCG, 2020). According to Transparency International (2019) 80% of public sector institutions rely on old records in selecting their suppliers, while only 25% search through internet catalogue in selecting suppliers (Rajkumar, 2019), the reason for loss, fraud, theft and gross mismanagement.

However, in Australia, previous research by Knudsen (2018) on the survey of the use of IFMIS and related technologies in procurement, shows that their use in the procurement processes improved procurement performance by 81%, while in Kenya, no empirical research has been undertaken to quantify IFMIS implementation and its impact on procurement performance. It is against that backdrop that this study was done to assess influence of IFMIS implementation on procurement performance of government ministries in Kenya.

### **1.3 Objectives of the Study**

The main objective of the study was to assess influence of IFMIS implementation on procurement performance of government ministries in Kenya.

#### **1.3.1 Specific Objectives**

- i. To determine the influence of online inventory management system on procurement performance of government ministries in Kenya.
- ii. To establish the influence of electronic vendor evaluation system on procurement performance of government ministries in Kenya.
- iii. To determine the influence of online payments system on procurement performance of government ministries in Kenya.
- iv. To find out the influence of online contract management system on procurement performance of government ministries in Kenya.

### **1.4 Research Questions**

These research questions helped the researcher in his quest to collect the relevant information on the research topic:

- i. How do online inventory management system influence procurement performance of government ministries?
- ii. How does electronic vendor evaluation system influence procurement performance of government ministries?
- iii. To what extent do online payments system influence procurement performance of government ministries?
- iv. How does online contract management system influence procurement performance of government ministries?

## **1.5 Justification of the Study**

Effective IFMIS use is an integral way of securing competitive advantage and improving procurement performance. This is so because of the shift in paradigm with respect to procurement management. The competition that exists today is between supply chains as opposed to being between organizations (Van Weele, 2019). The study will be useful for the following sectors:

### **1.5.1 Government of Kenya**

The study will be helpful to the policy makers in government in formulating appropriate regulations to guide the use of IFMIS in its sourcing. The study will also guide the government in setting up a benchmark policy through which IFMIS use is implemented. The study will guide the management of government ministries in determining the appropriateness of various ICT platforms such as IFMIS (Rajkumar, 2019).

### **1.5.2 Procurement Departments in the Public Sector**

Human capital in procurement departments within Kenya and elsewhere will greatly benefit from this study as it highlights how IFMIS use is affected by various issues. Also, the study shows organizations that have managed to apply IFMIS in procurement thus helping interested departments to use them as case studies for their improvement of sourcing (Knudsen, 2020).

### **1.5.3 Stakeholders**

Procurement professionals, suppliers, contractors and institutions in the supply chain industry will benefit; the study will provide useful, relevant and up to date information on IFMIS, its limitations and challenges. It will also provide recommendations which will come in handy during implementation by other interested stakeholders (Croom, 2019).

### **1.5.4 Researchers**

This study will form a basis of which future research can be developed, mostly with practices of public entities with respect to IFMIS and also it will help researchers to recognize that

IFMIS in procurement can be of advantageous to organizations in terms of total cost reduction (Oso & Onen, 2020).

### **1.6 Scope of the Study**

Content and contextual scopes exist. The content scope is in assessing influence of IFMIS implementation on procurement performance of government ministries in Kenya. IFMIS in procurement enables the business-to-business purchasing that utilizes its electronic platform to identify potential sources of supply, to purchase goods and services, to transfer payment, and to interact with suppliers (Bottani & Rizzi, 2018). With regard to contextual or geographical scope, the study was conducted at the state department of interior, Nairobi. The ministry is appropriate and relevant because it is a key ministry in the government with 12 important departments under it which practice public procurement.

Data was collected from procurement officers as the target population at senior, middle and support levels. They are considered major respondents of the study. The emerging tools and platforms that replace traditional procurement in IFMIS include: online inventory management, electronic vendor evaluation, online payments and online contract management which are the core variables that play an indisputable role in online procurement and consequently influences performance of any organization positively. This is the rationale behind considering these variables in this study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter involves literature review where a deeper look in the subject matter is done. It comprises of; theoretical review, conceptual framework, empirical review, critique of literature, summary and research gaps.

#### **2.2 Theoretical Review**

This consists of concepts together with their definitions and reference to relevant scholarly literature (Dunn, 2019), existing theory that is used for a particular study. Here a demonstration of understanding of theories and concepts that are relevant to the topic of the research paper and that relate to the broader areas of knowledge being considered (Kothari, 2020). Thus, it is a collection of interrelated statements or principles that explains the major theories in relation to IFMIS implementation and its impact on procurement performance of government ministries in Kenya.

##### **2.2.1 The Technology Acceptance Model (TAM)**

This model was developed and validated by Davis (1993), he used technology acceptance model (TAM) to explain the mechanisms that influence and shape users' acceptance of new information technology such as electronic tendering (Minahan & Degan, 2019). Inventory management system as an information technology application consists of useful tools for users to save money and increase organizations' effectiveness and efficiency (Davila, Gupta & Palmer, 2018).

Process cost savings, reduced administration costs, decrease in costs through reduced staffing levels, increased quality through increased competition, placing purchase orders, reduction in time through improved internal workflow and shortened overall procurement cycle times through aspects like automated reorder system, compose some of the benefits that stem of inventory management system (Kheng & Al-Hawamdeh, 2018).

According to TAM, there are two specific variables that are fundamental determinants of users' attitude toward using information technology and actual use of the system: perceived usefulness and perceived ease of use relatively to new information system design features (Eadie, Perera & Heaney, 2019). If users realize that bar coding of items is quicker and efficient, then their acceptance will be more likely (Minahan & Degan, 2017).

Many researchers have conducted empirical studies to examine the explanatory power of the TAM, which produced relatively consistent results on the acceptance behavior of IT end users (Aboelmaged, 2021). In summary, TAM provided an explanation of the determinants of technology acceptance that enables explanation of user behavior across a wide scope of end-user information technologies and user populations (McIntosh & Sloan, 2019). Technology acceptance model is relevant in that it explains government ministries are increasingly accepting and using new technologies in inventory management and ICT procurement activities which consequently is improving procurement performance.

### **2.2.2 The Partnerships Theory**

Partnership's theory was developed by Sir Francis Hill (1966) in which he opined that in supply chain, the common model through which theorists study the relationship between supplier and buyer is known as the partnership theory. In its basic nature, the partnership model depicts the buyer and supplier as partners with a common interest which is customer satisfaction (Petroni & Braglia, 2019).

Partnership is a business relationship based on mutual trust, openness, shared risks and rewards that enables an organization gain competitive advantage leading in the company achieving a performance that's far much greater than the firm would have achieved when operating as single entities. This model requires efficient electronic vendor evaluation systems between the buyer and supplier which is a critical element of any partnership (Ribeiro & Henriques, 2019).

The theory further states that any partnership is always based on value and present for each other. The solid and long-term relationship simply implies continuous improvement of the

organization performance. Suppliers must provide better services that are of high quality than his competition at a price reasonable and still achieve goals to remain in business. Partnership model according to Segev and Gebauer (2019), increases company efficiency through way of cooperative; both parties obtain cost reduction which leads to price reduction and therefore increasing the market share profit margin as well. This leads to a company gaining a competitive edge and efficiency.

The character which forms the perceived attributes of partnership include the following; high frequency of mutual improvement of processes, cooperative attitude, trusting relations are built, problem solving that is win negotiation style, long term business agreement, open sharing of information and there is always vendor certification and defect prevention approach. Motivation factors, environment of operation, strength of operation and duration of operation vary in different partnership formed. However, there is never an ideal relationship that is recommended (Salford, & Roche, 2019).

There are three types of partnership; which is the most used. Companies recognize each other as partners, all the activities are coordinated, and planned is short term. Only one division within the organization is involved. The second type is partnership which basically integrates activities rather than coordinating as in the case for type 1. There are multiple division and entails a long-term horizon. The last type of partnership is the partnership which is not used frequently. Companies share high operational integration such as electronic vendor evaluation and each views the others as an extension of their firm (Puschmann, 2017).

### **2.2.3 Schumpeterian Theory of Creative Destruction**

Schumpeter who saw innovations as perpetual gales of creative destruction that were essential forces driving growth rates in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation was largely dependent on exceptional individuals willing to take on exceptional hazards as "an act of will", that is, entrepreneurs, from his later thinking that recognized the role of large corporations in organizing and supporting innovation. This resulted in his

emphasis on the role of oligopolies in innovation and which later was falsely viewed as the main contribution of his work (Gunasekaran & Rai, 2021).

Schumpeter pointed to the discontinuous and disruptive nature of technological change in capitalism that brings the inseparable combination of short-term instability and long-term growth. He was not a technological determinist but recognized the social and organization forces that played key roles in his cyclical process of industrial change (Egbu, Vines & Tookey, 2017). Schumpeter argued that entrepreneurs, who could be independent inventors or R&D engineers in large corporations, created the opportunity for new profits with their innovation. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation (Angeles & Nath, 2021).

For all his insight on the role of innovation, Schumpeter still did not really explain the source of innovation. He was able to point to its importance and its role in timing economic cycles but did not address its source (Bendoly & Schoenherr, 2017). Eadie, Perera and Heaney (2019) echo Solow's observation and continued the call for innovation theorists to internalize the process of innovation within their models. The Schumpeterian theory is relevant because new technology replaces old technology which is better because new technology is better and adds value to the user, in these particular study online payment methods keeps on evolving.

#### **2.2.4 The Dynamic Capability Theory**

The theory was developed by David Teece, Gary Pisano and Amy Shuen, in their 1997 paper *Dynamic Capabilities and Strategic Management*. Dynamic capability theory elaborates the organization's ability to deliberately optimize its resources. The ability of a firm to integrate, develop and leverage on the environmental competitive advantage to adapt to its dynamism according to (Cagliano, Caniato & Spina, 2018).

Online contract management system integrates the in-house and external procurement components to address dynamics in the way organizations achieve operational excellence by reducing cost and saving on time used to procure goods and services in government ministries, this includes aspects such as; tracking and tracing capabilities, electronic

catalogues and optimal vehicle scheduling and routing. These are the modern-day dynamic capabilities (Bradley, 2017).

Dynamic capability is a theory of competitive advantage in rapidly changing environments (Boer & Heijboer, 2018). It examines the scope conditions of dynamic capability; that is, when the theory has more and less explanatory power. It finds that dynamic capability has greatest explanatory power when a partially foreseeable technological change is on the verge of transforming market competition and less explanatory power when dynamic capabilities are not undervalued and in markets that reward short bursts of performance over long-term persistence (Hawking & Foster, 2017).

The attractiveness of the dynamic capability concept stems from its' potential to connect the resource-based view of the firm with the emerging knowledge economy aspects such as online contract management, discourse prevalent in contemporary debate. Therefore, online contract management is one of the angles that both approaches have a mutual focal point hence its relevance in this study (Wang, Chang & Heng, 2017).

## **2.3 Empirical Review**

There are a few studies assessing the influence of IFMIS implementation on procurement performance of government ministries in Kenya. Knudsen (2020) observed that government ministries are faced with the challenge of meeting high performance targets while using meager resources to deliver services demanded by the public.

### **2.3.1 Online Inventory Management System and Procurement Performance**

Kalakota *et al.*, (2019) analyzed the warehouse and inventory management system in Shell Petroleum Development Company and demonstrated the utility of ICT through vendor managed inventory as a veritable value-added tool in electronic inventory management. Croom (2019) also tried to justify the use of modified EOQ models logistic-based approach to managing inventory of perishable products. Lean management of inventory is getting more and more attention in today's highly competitive environment. The proponents of electronic inventory

system argue that excess inventory will adversely affect the net cash flows of a firm (Moon, 2017).

On the cost side, most obvious are the costs of holding inventory, which include the capital costs (interest or opportunity) and the physical cost (storage, insurance and spoilage). In recent years, a number of electronic inventory systems have been developed in the field of operations management to deal with excess inventory problem. Management oriented systems include the automated reorder systems, EOQ models and bar coding of items. These organization wide practices encompass the entire supply chain (Wong & Sloan, 2017).

The elements of automated reorder systems include shared product design with suppliers and customers, movement towards single sourcing proximate suppliers, reduced machine set-up times and total preventive maintenance (Lysons, 2018). It is an electronic inventory strategy that is implemented to improve the return on investment of a business by reducing inventory and its associated carrying costs. In order to achieve JIT, the process must have signals of what is going on everywhere within the process which can lead to dramatic improvements in a public organization's return on investments, quality and efficiency. It emphasizes that production should create items that arrive when needed, neither earlier nor later (Davila *et al.*, 2018).

Davila *et al.*, (2018) used statistical process monitoring tools with inventory levels and stock-outs as key metrics in achieving proactive inventory policy intervention in the context of cooperative supply chains. Their results showed the possibility of detecting out-of-control supplier signals beforehand and significantly reducing stock-outs through dynamic adjustments of inventory levels (Chan *et al.*, 2021).

As earlier noted, there has also been renewed interest by researchers to improve on the awareness of the economic benefits of robust electronic inventory management (Lysons, 2018). These studies suggest the need for modern organizations to do away with qualitative approaches, in favor of quantitative methods, given today's increasingly complex and unpredictable environment. In this regard, Githumbi (2018), applied quantitative demand

forecasting methods along with two classic inventory models, namely electronic order quantity, to demonstrate significant (up to 44 per cent) inventory cost reduction and improved customer service levels at a company in Nairobi.

Also, in the context of electronic order quantity inventory analytical tool, Kar (2021), made an attempt to use modified linear optimization method that improved the discriminating power of inventory items beyond what is obtainable by conventional approaches. Similarly, Callender *et al.*, (2019) used financial statement data to establish the nexus between inventory management and firm profitability of US manufacturing firms. The researchers found that a lower ratio of inventory to sales for a firm is associated with higher profit margin for the firm, but the specific IMTs that helped the enterprises to achieve profitability were not the focus of the study.

In similar vein, Issa *et al.*, (2018), used the inventory management system to highlight the effectiveness (or ineffectiveness) of internal control of an entire organization. Relatedly, in the Nigerian context, Kannan *et al.*, (2018) used a combined case study or survey methods to provide some useful insights into how Nigerian manufacturers optimized inventory management in terms of lead-time delivery and reduced stock-outs of products, goods and materials. Cagliano *et al.*, (2018) used similar approach to evaluate the role of inventory management in fostering entrepreneurship. In both studies, the results suggest that robust inventory management leads to economy, efficiency, and cost-reduction, of other benefits.

### **2.3.2 Electronic Vendor Evaluation System and Procurement Performance**

According to a study done by Farzin *et al.*, (2019) he argues that electronic vendor appraisal process is an essential aspect of both strategic sourcing and procurement performance in order for an organization to achieve competitive advantage. Boer *et al.*, (2018) observed that developing a robust, easy-to-deploy method of evaluating vendor electronically is a critical business competency. Boer noted that the methodology should be sound and the approach practical. Vendor evaluation may take various approaches which all influence the quality of data obtained from the vendors which reflect the true picture of the suppliers (Petroni, 2019).

Davila *et al.*, (2018) noted that there are many sources which the procuring entity should use to check or verify the dependability and reliability of each supplier. Davila further observed that electronic vendor appraisal is one of the widely used to collect information about the vendor and electronic vendor appraisal uses published or unpublished information already in existence and is particularly applicable to product and financial appraisals. Saford (2019) added that electronic vendor research should always precede field research since it will indicate what matters need to be investigated.

Premkumar (2021) stated that the strategic importance of a given supply item (and in aggregate a contract or vendor) is related to its profit impact and its supply risk. Profit impact can be volume or value purchased, impact on supply chain value-add, business growth potential or dependency. Supply risk can be product availability, number of suppliers, ease or cost of switching vendor or the availability of substitute products or services (Aboelmaged, 2021).

Croom (2019) proposed that companies should support continuous electronic performance appraisals by holding vendors accountable for poor performance and providing incentives for outstanding performance, therefore they should hold regular vendor reviews to facilitate on-going vendor performance management and provide a senior management overview of the relationship between the organization and the supplier (Martin, 2020). An organization can benefit greatly when key vendors reduce costs, introduce new services designed to address the organization's needs, and work with the organization to streamline joint processes (Kar, 2021). According to Githumbi (2018) vendor performance measurement is the process of measuring, analyzing, and managing vendor performance for the purposes of reducing costs, mitigating risk, and driving continuous improvement. Lavelle *et al.*, (2021) articulates that SPM is a process, not an event. It requires support from stakeholders besides procurement, as vendor performance impacts many functions.

According to the study by Egbu *et al.*, (2017), third party appraisals may also be undertaken mostly through a variety of agencies especially when assessing the compliance to quality systems. Similarly, in the study by Rajkumar (2019), he observed that electronic vendor

evaluation enables information to be provided on a template to be verified and answers given by the vendor's staff in the course of the evaluation. Rajkumar also observed that frequent electronic vendor evaluations with suppliers facilitate the prevention of inefficient practices at an early stage and encourage continuous improvement of vendors.

These assessments, however, are mutually beneficial only if both parties are willing to cooperate and provide the necessary inputs (Teo *et al.*, 2021). When seeking to approve vendors, procurement functions must be satisfied that as a minimum they are technically sound, managerially competent, adequately resourced, financially stable and reliable which consequently leads to timely delivery and supply of quality products (Li, 2020).

### **2.3.3 Online Payments System and Procurement Performance**

Wang *et al.*, (2017) in their study on the levels of electronic payment adoption in business networks, they define e-payment system as a form of financial commitment that involves the buyer and the seller facilitated via the use of electronic communications. Also, Segev and Gebauer (2019) sees e-payment as a form of inter-connections between organizations and individuals aided by banks and inter-switch houses that enables monetary exchange electronically.

In another perspective, Sanders (2017) viewed e-payment system in his study as any form of fund transfer via the internet. Similarly, according to Thomson *et al.*, (2020), electronic payment system refers to an electronic means of making payments for goods and services procured online or in supermarkets and shopping malls. Another definition suggests that e-payment systems are payments made in electronic commerce environment in the form of money exchange through electronic means (Weber *et al.*, 2019).

Peleg *et al* (2018) stated more than ten electronic payment benefits for both buyer and seller. Such as cost savings and speed in selling and purchasing, exposure to new customers (global reach), convenience and transparency to users, better quality of product/service, reduce need for office space and fewer resources required. ICT and digital technologies have made great evolutionary development in finance, economics, operational costs and enhanced

organizational performance (Rajkumar, 2019). The era of ICT and digital innovations has come along with a dynamic change in the world business environment, whereby business transactions are constantly shifting from cash-based transactions to electronic-based ones (Lavelle, 2021). Also, the global proliferation of the internet and its rapid use over the years had contributed much in facilitating electronic commerce in global business environment (Li, 2020).

Consequently, as transactions of business partners continue to proffer on the e-commerce platform, an electronic payment solution has emerged to replace the former cash-based payment systems (Davilla *et al.*, 2018). The advent of this development in the global business environment challenged most organizations to automatically switch from the conventional paper-based money transactions to an electronic payment system which is widely known as the e-payment system. Generally, electronic payment can be defined as a platform used in making payments for goods/services purchased online through the use of internet (Dooley, 2017).

Furthermore, Kalakota *et al.*, (2019), in their study on the influence of online payments (as one of their independent variables) on procurement performance, they see electronic payment as a financial exchange that takes place online between the seller and the buyer. Moreover, Dooley (2017) are in the opinion that online payments refer to cash and associated transactions implemented using electronic means. E-payment is also defined as payment by electronic transfer of credit card details, direct credit or other electronic means other than payment by cheque and cash (Croom, 2019).

Bradley (2017) in his study concerning electronic procurement influence on supply chain performance, he defined e-payment as a payer's transfer of a monetary claim on a party acceptable to the beneficiary. Angeles *et al.*, (2021) define e-payment as payments made via the automated clearing house, commercial card systems and electronic transfers. Amayi (2019) define e-payment as any exchange of funds initiated via an electronic communication channel. Also, Bottani *et al.*, (2018) viewed e-payment as any transfer of an electronic value of

payment from a payer to payee through an e-payment channel that allows customers to remotely technological aspect, Economic aspect, social aspect and Institutional and law aspects.

#### **2.3.4 Online Contract Management System and Procurement Performance**

Cagliano Angeles (2019) explored the effectiveness of e-contracting in Ghana's public corporations and adopted a descriptive research design. Findings of the study revealed that e-contracting strategies enhances procurement performance by reducing transaction costs and cycle times; allowing possibility of developing vendor managed inventory and improvements in just in time deliveries; facilitating more accurate deliveries due to reduced input order errors by suppliers; shared performance measurement data which encourages improved supplier performance; potential for less expediting by the buyer as the supplier acknowledges orders by exception which automatically updates the buyer's system; reduced stock due to shared sales/forecast information; possibility of using self-billing. However, the study was conducted in Ghana.

Amayi (2019) investigated the adoption of e-contracting strategy and procurement performance in state corporations with reference to Kenya Revenue Authority. The study adopted a cased study approach. Findings of the study revealed that electronic contracts processing positively influenced procurement performance leading to annual savings; reduced procurement cycle-time and procure-to-pay cycle. The study presents a methodological gap since it was a case study whereas the proposed study is a census.

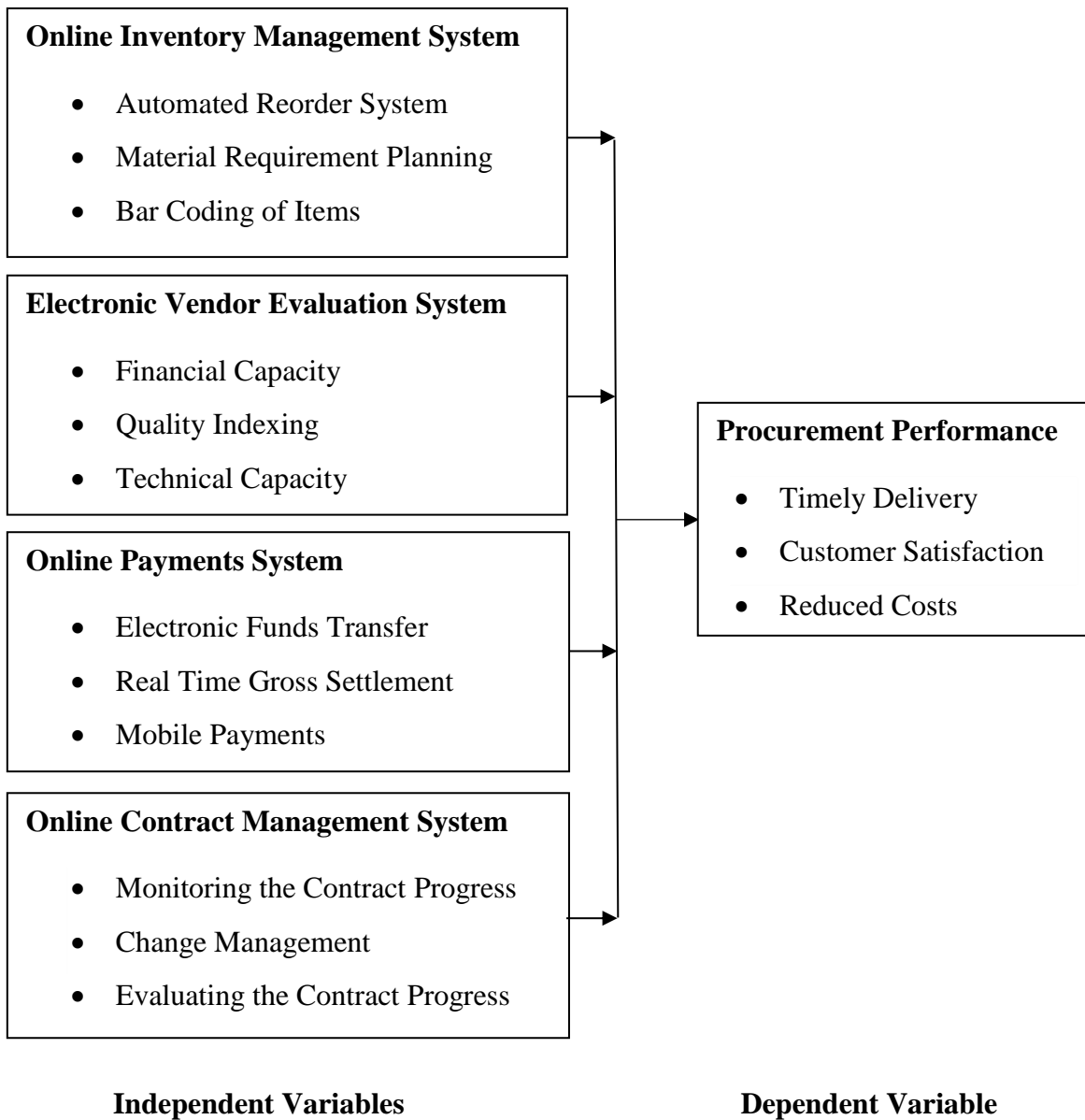
Githumbi (2018) investigated the impact of e-contracting on procurement performance of state corporations in Kenya. Findings of the study revealed that e-contracting has greatly enhanced procurement performance. As a result, the following was realized: reduction of errors in order transmission, reductions in inventory, assured supply and reduction of production stoppages, reduced work content in the total 'requisition to payment' process, transaction cost reduction, reduction in the time taken to complete the procurement process, ensuring stronger vendor-buyer relationship, improved procurement resource utilization, ensuring better contracts and delivery of best-value contracted goods and service. The study presents a contextual gap since it did not focus on food and beverage firms.

Li, (2018) explored e-procurement adoption employing six hotels as case study with an objective of identifying key factors that are associated with the low adoption of e-contracting specifically in the hotel industry in Hong Kong, a major tourism destination in Asia. The study was cross section in nature. The study revealed six major factors associated with the low adoption of e-procurement, namely: technical factors; perceived benefits; conflicts between hotel owners and management; resistance to change; product diversity; and rumors. They also found that companies majorly use online contracting as a strategic tool for enhancing procurement performance.

As Lowe (2018) points out, an online contract is the foundation of the establishment and maintenance of a favorable relationship between the contractor and contracting authority. It also forms a basis for the acceptance of the proposal deliverables hence ensuring the achievement of value for money. If a contract fails to address the relevant issues required in the agreement, such as, word ambiguities, it becomes hard for the contracting company to base a positive working relationship with the contractor.

## 2.4 Conceptual Framework

Conceptual framework is a detailed description of the phenomenon under the study accompanied by the graphical or visual depiction of the major variable of the study (Kothari, 2020). According to Agresti (2019) conceptual framework is diagrammatical representation that shows the relationship between dependent variable and independent variables, as shown in figure 2.1.



**Figure 2.1: Conceptual Framework**

## 2.5 Research Gaps

According to Bilali and Bwisa (2017) the role of IFMIS in procurement has been backed as a new strategic view of supply chain management. The innovation of employing IFMIS in procurement systems can create value for enterprises through utilizing IFMIS enabled resources on supply chain management. Previous studies have focused on the benefits of ICT on supply chain performance for example; Aboelmaged (2021) conducted a study on the critical success factors and challenges in electronic procurement adoption and effective use of manufacturers in Nairobi, Kenya. He concluded that most of the large-scale manufacturing firms have partially used ICT in procurement. This forms the literature gap in this study.

Bilali and Bwisa (2017) conducted an investigation of selected strategy variables on firm's performance on IFMIS platform. The study focused on supply chain management in county governments in Kenya. It was established that most of the IFMIS strategies of counties in Kenya are not owned by individual counties but also other organizations within the supply chain that provide the required linkages towards the overall corporate performance of the counties.

These studies agree that IFMIS realization is a cross-industry challenge. However, the extent through which the role of IFMIS in procurement processes and its effects on organization performance is still not clear (Arrowsmith & Trybus, 2020). For scholars, IFMIS and its adoption in procurement is an upcoming phenomenon in the business fraternity, and needs to be critically analyzed. For procurement managers, the role of IFMIS adoption in procurement applications creates a need to understand the impact of information technology on the achievement of competency on a practical level (Bendoly *et al.*, 2017).

However, the authors have failed to show particularly the aspects of IFMIS such as: online inventory management, electronic vendor evaluation, online payments and online contract management. There is need therefore, to conduct a study to assess IFMIS implementation and its impact on procurement performance of government ministries in Kenya, hence an existing knowledge gap in this area.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter explores the research techniques that were used in the study. It articulates the research design that will be used, the population and sample targeted, as well as how data was collected subsequently analyzed. The chapter also provides the preliminary practices that were performed to ascertain reliability and validity of the research instrument as well as to ensure linearity of the study findings.

#### **3.2 Research Design**

The study adopted descriptive research design. Descriptive research design allows the researcher to study the elements in their natural form without making any alterations to them (Kothari, 2020). The design also allows the researcher to come up with descriptive statistics that can assist in explaining the relationship that exists of variables (Orodho, 2021). This study employed descriptive research design to investigate the influence of IFMIS implementation on procurement performance of government ministries in Kenya. The design is selected for this study because it can provide numeric description of the population and describe events as they are, as they were or as they will be (Trochin, 2021).

#### **3.3 Target Population**

Mugenda and Mugenda (2020), define population as an entire group of individuals, events or objects having common observable characteristics. According to Kasomo (2021) a target population refers to all the members of a real or hypothetical set of people, events or objects to which the researcher wishes to generalize the results of the research. The unit of analysis was the various sub-departments in the ministry of interior. The unit of observation was 156 procurement officers in those various sub-departments in the ministry of interior. Human resource directorate has the list of the procurement officers in its website.

**Table 3.1 Target Population**

<b>Category</b>	<b>Target Population</b>	<b>% of Population</b>
Directorate of Immigration & Registration of Persons	16	10
National Administration	25	16
National Police Service	15	09
Peace Building & Conflict Management	08	05
Small Arms Control & Management	09	06
National Disaster Operations Center	21	13
Government Printer	12	08
NACADA	10	06
Survey, Delimitation & International Boundary	09	06
National Cohesion & National Values	14	09
Kenya School of Adventure & Leadership	06	04
Probations Administration	11	07
<b>Total</b>	<b>156</b>	<b>100</b>

### **3.4 Sample Size and Sampling Technique**

Kombo and Tromp (2020) it as a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. The study employed a census approach to collect data from the respondents hence no sampling techniques were used. This method was appropriate because it reduced on biasness in research, since all the respondents will be given an equal chance to participate in the study (Golafshani, 2019). According to Larry (2018) a census is a count of all the elements in a population. The sample size was all the 156 procurement officers.

### **3.5 Data Collection Instruments and Data Collection Procedure**

Primary data was obtained using a questionnaire. The questionnaire consisted of both open ended and closed ended questions covering issues related to influence of IFMIS implementation on procurement performance of government ministries in Kenya. Open ended questions allowed free responses from the respondents and the closed ended questions allowed responses from the respondents from limited stated alternatives where a likert scale was adopted. According to Mugenda and Mugenda (2020), the open ended or unstructured questions permit greater depth of response from the respondents while the closed or structured questions are usually easier to analyze.

The study considered questionnaires because they have advantages over other types of procedures. They are relatively cheaper, do not require as much effort from the questionnaire as verbal or telephone surveys, and often have standardized answers that make it simple to compile data (Kothari, 2020). The questionnaire designed in this study comprised of two sections. The first part included the demographic and operational characteristics designed to determine fundamental issues including the demographic characteristics of the respondent. The second part was devoted to influence of IFMIS implementation on procurement performance of government ministries in Kenya.

The questionnaires were self-administered to the respondents and two research assistants were recruited and trained so that they were able to get quality results. A brief introduction was made to the respondents before administering the questionnaire with the aim of explaining the questionnaire. Confidentiality was assured to the respondents through the letter of transmittal that accompanied the questionnaire (Kothari, 2020). This study utilized both primary and secondary data. Questionnaires will be used to collect primary data which was distributed to the staff. The researcher made personal follow-ups to ensure that the questionnaires are filled and collected (Trochin, 2021). Each questionnaire was coded and only the researcher got to know which person responded (Orodho, 2021).

### **3.6 Validity and Reliability Research Instruments**

According to Mugenda and Mugenda (2020) pilot test is necessary in a survey study. A pilot test was conducted using questionnaires administered to respondents. Bird (2021) argues that it provides an opportunity to detect and remedy potential problems such as questions that respondents don't understand. The pilot was undertaken to pretest data collection instrument for validity and reliability. According to (Orodho, 2021) 10% of the target population should constitute the pilot test which should not be included in final study. Piloting of the research instrument means administering the instrument to a small representative sample identical to but not including the group one is going to survey. In this study, 10% of the target population was 16 respondents.

Validity is defined as the degree to which true differences of respondents being tested is reflected in differences found with a measuring tool reflect (Trochin, 2021). Validity can be measured by the extent the data obtained accurately reflects the theoretical or conceptual concepts; that is if the measurements gotten are consistent with the expectations. There is construct validity and content validity (Ngechu, 2021). Construct validity was ascertained through the data that is collected from the pilot sample to find out whether the data collected is accurate and meaningfully represented in the theoretical concepts (Kothari, 2020). Content validity was analyzed by professionals in the field such as university supervisors. Content validity coefficient index of 0.7 was used to test the validity of the questionnaire (Orodho, 2021). To demonstrate the validity of the research instruments the study will seek opinions of experts in the field of study.

Oso and Onen (2020) explains reliability of research as determining whether the research truly measures that which it was intended to measure or how truthful the research results are. Reliability analysis was conducted using Cronbach's alpha to determine whether the data collection instrument is reliable for the study. Reliability is the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable (Orodho, 2021). Isaac and Michael (2020) adhere to the notions that consistency with which questionnaire items are

answered or individuals scores remain relatively the same can be determined through the test-retest method at two different times. This attribute of the instrument is actually referred to as stability. An alpha coefficient of 0.7 or higher indicates that the gathered data is reliable as it has a relatively high internal consistency and can be generalized to reflect opinions of all respondents in the target population.

### **3.7 Data Analysis and Presentation**

According to Kothari (2020), data analysis is a process of gathering, modeling and transforming data with the goal of highlighting useful information, suggesting conclusions and supporting decision making. This study is expected to produce both quantitative and qualitative data to explain influence of IFMIS implementation on procurement performance of government ministries exhaustively. When the data is received, it was coded and edited for completeness and consistency (Dunn, 2019). Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 22. It gives simple summaries about the sample data and presents quantitative descriptions in a manageable form (Agresti, 2019). Together with simple graphics analysis, descriptive statistics form the basis of virtually every quantitative analysis to data, (Kothari, 2020). The Pearson correlation coefficient was used to indicate one on one association between each of the independent variable to the dependent variables. Multiple regression analysis was used to establish the relationship between the independent and dependent variables. It is specifically preferred as it contains a model goodness of fit to show the percent of procurement performance being attributed to the conceptualized study variables. Multiple regression analysis is adopted when the study has one dependent variable which is assumed to be a function of two or more independent variables (Mugenda & Mugenda, 2020).

The multiple regression model;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

**Where:**

**Y** = Procurement Performance

**$\beta_0$**  = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$  = Beta Coefficients

**X<sub>1</sub>** = Online inventory management system

**X<sub>2</sub>** = Electronic Vendor Evaluation

**X<sub>3</sub>** = Online payments system

**X<sub>4</sub>** = Online contract management system

**$\epsilon$**  = Error Term

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

#### 4.1 Introduction

This chapter presents results arising from the analysis of data collected using questionnaires. The current study sought to examine the influence of IFMIS implementation on procurement performance of government ministries in Kenya. The data collected was analyzed using descriptive and inferential statistics and the findings presented in tabular summaries and their implications discussed.

#### 4.2 Response Rate

A sample of 156 respondents were interviewed using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. A total of 156 questionnaires were distributed to heads of procurement. Out of the population covered, 9 were responsive representing a response rate of 76%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda & Mugenda, 2018).

**Table 4.1: Response Rate of Respondents**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Actual Response	119	76
Non-Response	40	24
<b>Total</b>	<b>159</b>	<b>100%</b>

#### 4.3 Pilot Study

The Cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for Cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Serekan, 2019). A value of at least 0.7 is recommended. Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure reliability. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test.

**Table 4.2 Reliability Results**

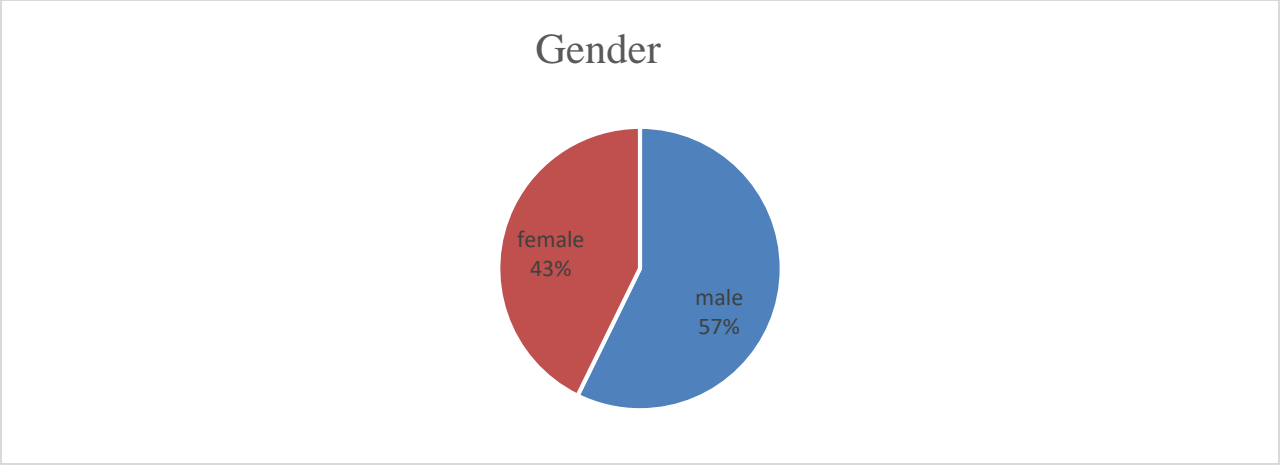
<b>Variable</b>	<b>No of Items</b>	<b>Respondents</b>	<b><math>\alpha</math>=Alpha</b>	<b>Comment</b>
Online Inventory Management System	9	16	0.893	Reliable
Electronic Vendor Evaluation System	9	16	0.987	Reliable
Online Payments System	9	16	0.974	Reliable
Online Contract Management System	9	16	0.976	Reliable

#### **4.4 Demographic Information**

This section presents the personal details of the respondents and it provides data regarding the study and is necessary for the determination of whether the individuals in a particular study are a representative sample of the target population and testing appropriateness of respondent in answering the questions for generalization. The study sought to determine the demographic characteristics of the respondents as they are considered as categorical variables which give some basic insight about the respondents. The characteristics considered in the study were; gender, age, their highest level of education attained and their work experience.

##### **4.4.1 Distribution of Respondents by Gender**

The study also determined the gender of the respondents. The results are submitted in figure 4.1 where 57% of the respondents were male while 43% of the respondents were female. The statistics may raise the issue of gender equity in government ministries in this country, but that is outside the scope of this study. A study on North American organizations found that women and men do not differ in their ability to perform tasks, but rather bring a different perspective to IFMIS implementation (William, 2020).



**Figure 4.1: Distribution of Respondents by Gender**

**4.4.2 Distribution of Respondents by Age**

The study determined the age distribution of the respondents. The results summarized in the table below. The findings indicate the respondents aged between 41-50 were 33.6%. 26.1% of the respondents indicated that they were aged 31-40 years. The age group of 18 -30 years accounted for 19.3%. Above fifty years was shown at 21%. Again, this shows that those interviewed are adults capable of making independent judgments and the results of a research process involving them is deemed to be valid. The findings are in agreement with those of Saunders (2021) who established that there are two natural age peaks of the late 20’s to early 40s which correlated to employee performance.

**Table 4.3: Distribution of Respondents by Age**

Age	Frequency	Percent
18-30 Years	23	19.3
31-40 Years	31	26.1
41-50 Years	40	33.6
50 Years and above	25	21.1
<b>Total</b>	<b>119</b>	<b>100</b>

#### 4.4.3 Distribution of Respondents by Level of Education

The respondents were asked to state their highest level of education and the results were as captured in Table 4.4. The results indicated that majority of the respondents 23.5% had a degree certificate, 22.7% percent had acquired a master's degree, and results further showed that 23.5% had a certificate while finally 30.3% were diploma holders. These findings concur those of Rotich (2021) who established that majority of who run public procurement are highly educated and that there is evidence linking education and procurement performance of government ministries.

**Table 4.4: Distribution of Respondents by Level of Education**

Level of Education	Frequency	Percent
Certificate Level	28	23.5
Diploma Level	36	30.3
Degree Level	28	23.5
Master Level	27	22.7
<b>Total</b>	<b>119</b>	<b>100</b>

#### 4.4.4 Distribution of Respondents by Length of Service

The study determined the number of years the respondents had worked in the government ministries in Kenya. From the findings the majority of the respondents had worked at government ministries at 28.6% for 6 to 8 years. 26.9% had worked for zero to two years. 26.9% had been in active service for 3-5 years. 17.6% and above had worked for 9 and above years. The findings of the study are in tandem with literature review by Patron (2021) who indicated that a duration and experience of employee helps him or her to have better knowledge and skills which contribute to performance.

**Table 4.5: Distribution of Respondents by Length of Service**

Length of Service	Frequency	Percent
0-2 Years	32	26.9
3-5 Years	32	26.9
6-8 Years	34	28.6

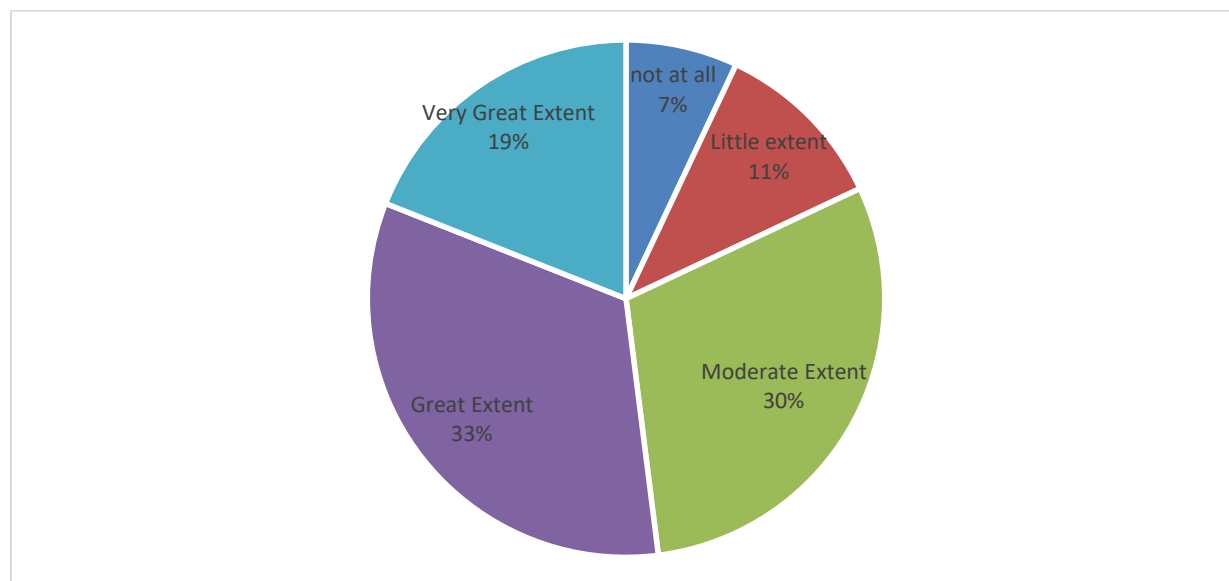
9 Years and above	21	17.6
<b>Total</b>	<b>119</b>	<b>100</b>

#### 4.5 Descriptive Statistics

The study set out to seek influence of IFMIS implementation on procurement performance of government ministries in Kenya. To this end, four variables were conceptualized as components of IFMIS implementation in Kenya. These include online inventory management system, electronic vendor evaluation system and online contract management system.

##### 4.5.1 Online Inventory Management System

The first objective of the study was to assess the influence of online inventory management system on performance of government ministries in Kenya. The respondents were asked to indicate to what extent online inventory management system influenced procurement performance in the government ministries in Kenya. Results indicated that majority of the respondents 33% agreed that it was to a very great extent, 19% said that it was to a great extent, 30% said it was moderate, while little extent was 11% and not all was at 7% respectively.



**Figure 4.2: Online Inventory Management System**

The respondents were also asked to comment on statements regarding online inventory management system influence on procurement performance in the government ministries. The responses were rated on a likert scale and the results presented in table 4.6 below. It was rated on a 5-point Likert scale ranging from; 1 = strongly disagree to 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, 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.

Results indicated that majority of the respondents as indicated by a mean of 4.2 agreed on the statement that automated reorder system plays a significant influence in improving timely delivery. The variations in the responses were shown by a standard deviation of 1.0. Results indicated that majority of the respondents as indicated by a mean of 3.6 agreed on the statement that material requirement planning plays a significant influence in improving timely delivery The variations in the responses was shown by a standard deviation of 1.3 Results indicated that majority of the respondents as indicated by a mean of 3.6 agreed on the statement that bar coding of items plays a significant influence in improving timely delivery The variations in the responses was shown by a standard deviation of 1.3.

Results indicated that majority of the respondents as indicated by a mean of 3.3 agreed on the statement that automated reorder system plays a significant influence in improving customer satisfaction. The variations in the responses were shown by a standard deviation of 1.3. Results indicated that majority of the respondents as indicated by a mean of 4.2 agreed on the statement that material requirement planning play a significant influence in improving customer satisfaction. The variations in the responses were shown by a standard deviation of 0.9. Results indicated that majority of the respondents as indicated by a mean of 3.8 agreed on the statement that bar coding of items plays a significant influence in improving customer satisfaction. The variations in the responses were shown by a standard deviation of 0.6.

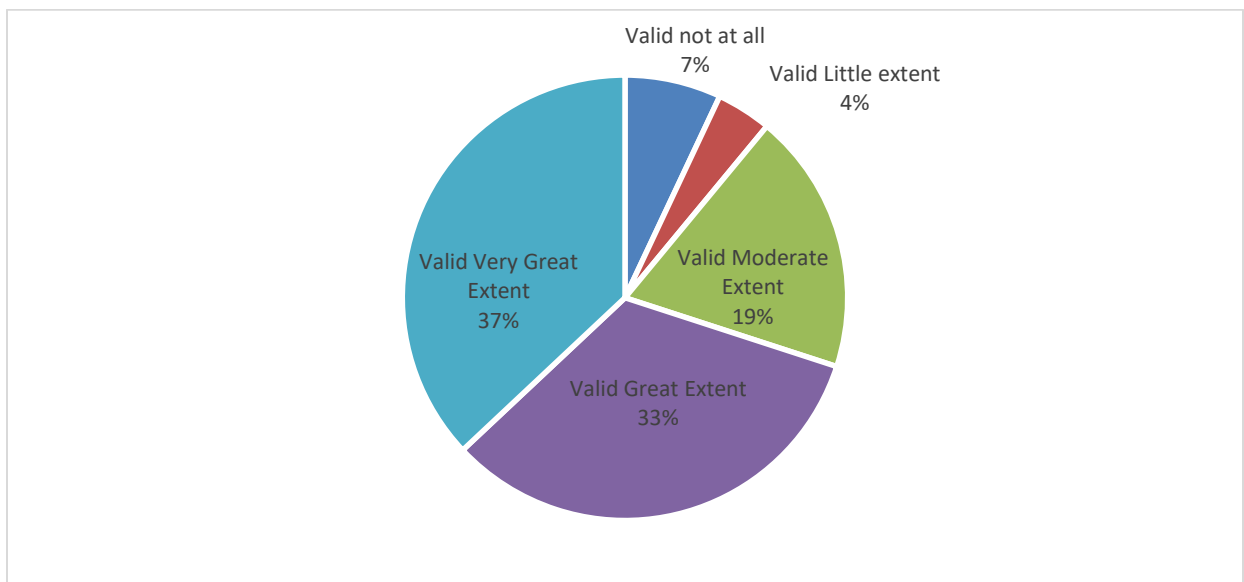
Results indicated that majority of the respondents as indicated by a mean of 4.1 agreed on the statement that automated reorder system plays a significant influence in reducing costs. The variations in the responses were shown by a standard deviation of 0.6. Results indicated that majority of the respondents as indicated by a mean of 3.9 agreed on the statement that bar coding of items plays a significant influence in reducing costs. The variations in the responses was shown by a standard deviation of 0.6. The average result for statements on online inventory management system was 3.8 while the standard deviation was 1.4. The findings agree with Odundo (2021) that practicing online inventory management system when sourcing can be smart.

**Table 4.6: Online Inventory Management System**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Automated reorder system plays a significant influence in improving timely delivery	119	4.2	1.0
Material requirement planning plays a significant influence in improving timely delivery	119	3.6	1.3
Bar coding of items plays a significant influence in improving timely delivery	119	3.8	1.3
Automated reorder system plays a significant influence in improving customer satisfaction	119	3.3	1.4
Material requirement planning plays a significant influence in improving customer satisfaction	119	4.2	0.9
Bar coding of items plays a significant influence in improving customer satisfaction	119	3.8	0.6
Automated reorder system plays a significant influence in reducing costs	119	3.6	1.3
Material requirement planning plays a significant influence in reducing costs	119	4.1	3.9
Bar coding of items plays a significant influence in reducing costs	119	3.9	1.1
<b>Average</b>	<b>119</b>	<b>3.8</b>	<b>1.4</b>

#### 4.5.2 Electronic Vendor Evaluation System

The second objective of the study was to investigate the influence electronic vendor evaluation system on procurement performance in the government ministries in Kenya. The respondents were asked to indicate to what extent did electronic vendor evaluation system influenced procurement performance in the government ministries in Kenya. Results indicated that majority of the respondents 37% agreed that it was to a very great extent, 33% said that it was to a great extent, 19% said it was moderate, while little extent and not all tied were at 4 and 7% respectively.



**Figure 4.3: Electronic Vendor Evaluation System**

The respondents were also asked to comment on statements regarding the influence of electronic vendor evaluation system on procurement performance in the government ministries in Kenya. Results indicated that majority of the respondents indicated by a mean of 3.8 agreed on statements that financial capacity play a significant influence in improving timely delivery. The variation was 1.2. Results indicated that majority of the respondents indicated by a mean of 3.5 agreed on the statement that quality indexing plays a significant influence in improving timely delivery. The variation was 1.1. Results indicated that majority of the respondents indicated by a mean of 3.7 agreed on the statement that technical capacity plays a significant influence in improving timely delivery. The variation was 1.

Results indicated that majority of the respondents indicated by a mean of 3.5 agreed on the statement that financial capacity plays a significant influence in improving customer satisfaction. The variation was 1. Results indicated that majority of the respondents indicated by a mean of 3.6 agreed on the statement that quality indexing plays a significant influence in improving customer satisfaction. The variation was 1.2. Results indicated that majority of the respondents indicated by a mean of 3.5 agreed on the statement that technical capacity plays a significant influence in improving customer satisfaction. The variation was 1.3.

Results indicated that majority of the respondents indicated by a mean of 3.5 agreed on the statement that financial capacity plays a significant influence in reducing costs. The variation was 1.3. Results indicated that majority of the respondents indicated by a mean of 3.4 agreed on the statement that quality indexing plays a significant influence in reducing costs. The variation was 1.4. Results indicated that majority of the respondents indicated by a mean of 3.4 agreed on the statement that technical capacity plays a significant influence in reducing costs.

The variation was 0.5. The average of the statements on electronic vendor evaluation system was 3.6 while the variations in the responses were given at 1.1. These findings agree with Nyariki (2018) that organizations must look towards information technology system for improvements. The opportunities for cost savings can be enormous as the impact on margins and bottom line is considerable.

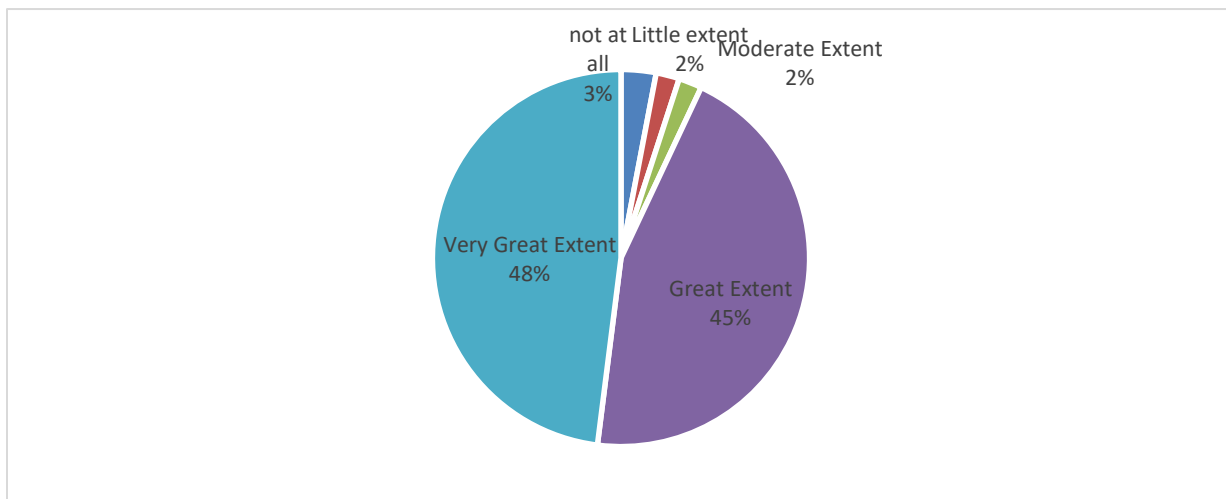
**Table 4.7: Electronic Vendor Evaluation System**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Financial capacity plays a significant influence in improving timely delivery	119	3.8	1.2
Quality indexing plays a significant influence in improving timely delivery	119	3.5	1.1
Technical capacity plays a significant influence in improving timely delivery	119	3.7	1.0

Financial capacity plays a significant influence in improving customer satisfaction	119	3.5	1.1
Quality indexing plays a significant influence in improving customer satisfaction	119	3.6	1.2
Technical capacity plays a significant influence in improving customer satisfaction	119	3.5	1.3
Financial capacity plays a significant influence in reducing costs	119	3.5	1.3
Quality indexing plays a significant influence in reducing costs	119	3.4	1.4
Technical capacity plays a significant influence in reducing costs	119	3.6	0.5
<b>Average</b>	<b>119</b>	<b>3.6</b>	<b>1.1</b>

#### 4.5.3 Online Payments System

There was also need to establish how online payments system influenced procurement performance of government ministries in Kenya as the third objective. The respondents were asked to comment on extent of online payments system influence procurement performance of government ministries in Kenya. Results indicated that majority of the respondents 48% agreed that it was to a very great extent, 45% said that it was to a great extent, 2% said it was moderate, little extent was 2% and not all at 3%.



**Figure 4.4: Online Payments System**

The respondents were also asked to comment on statements regarding: online payments system influence procurement performance of government ministries in Kenya. Results indicated that majority of the respondents as shown by a mean of 4.0 agreed on the statement that electronic funds transfer plays a significant influence in improving timely delivery. The standard deviation for the results responses was 1.1. Results indicated that majority of the respondents as shown by a mean of 4.4 agreed on the statement that real time gross transfer plays a significant influence in improving timely delivery. The standard deviation for the results responses was 1.3. Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that mobile payments play a significant influence in improving timely delivery. The standard deviation for the results responses was .8.

Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that electronic funds transfer plays a significant influence in improving customer satisfaction. The standard deviation for the results responses was 1.3. Results indicated that majority of the respondents as shown by a mean of 3.7 agreed on the statement that real time gross transfer plays a significant influence in improving customer satisfaction. The standard deviation for the results responses was .7. Results indicated that majority of the respondents as shown by a mean of 2.8 agreed on the statement that mobile payments play a significant influence in improving customer satisfaction. The standard deviation for the results responses was .7.

Results indicated that majority of the respondents as shown by a mean of 3.2 agreed on the statement that electronic funds transfer plays a significant influence in reducing costs. The standard deviation for the results responses was 1.2. Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that real time gross transfer plays a significant influence in reducing costs. The standard deviation for the results responses was 1.2. Results indicated that majority of the respondents as shown by a mean of 3.6 agreed on the statement that mobile payments play a significant influence in reducing costs.

The standard deviation for the results responses was 1.3. The average for all the responses was 3.6 and a standard deviation of 1.2. These findings imply that through online payments system, government ministries can improve performance (Noor, Guyo & Amuhaya, 2018).

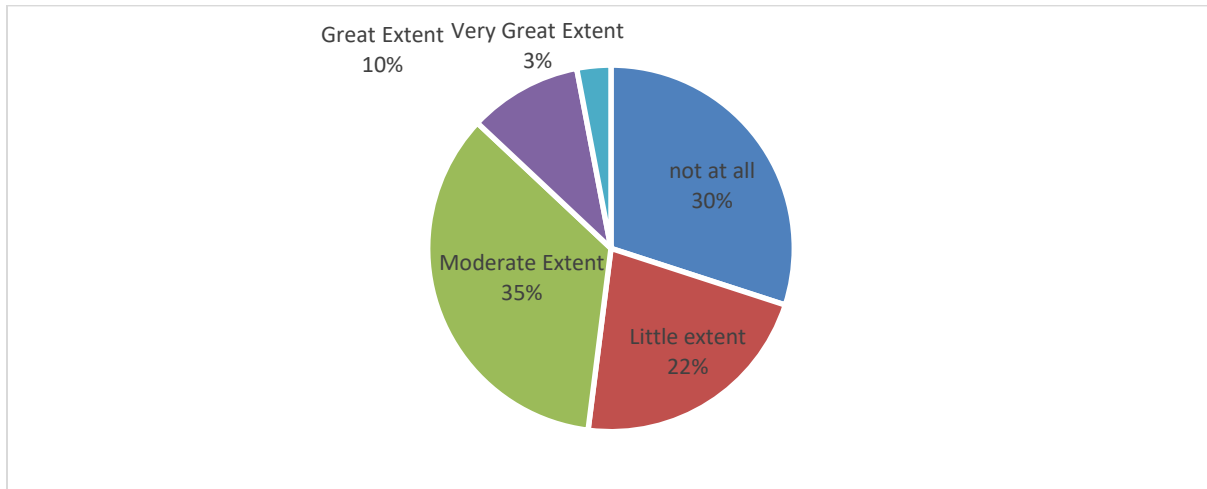
**Table 4.8: Online Payments System**

<b>Statements</b>	<b>N</b>	<b>Mea n</b>	<b>Std. Deviation</b>
Electronic funds transfer plays a significant influence in improving timely delivery	119	4.0	1.1
Real time gross transfer plays a significant influence in improving timely delivery	119	3.4	1.3
Mobile payments play a significant influence in improving timely delivery	119	4.1	0.8
Electronic funds transfer plays a significant influence in improving customer satisfaction	119	4.1	1.0
Real time gross transfer plays a significant influence in improving customer satisfaction	119	3.7	0.7
Mobile payments play a significant influence in improving customer satisfaction	119	2.8	1.3
Electronic funds transfer plays a significant influence in reducing costs	119	3.2	1.2
Real time gross transfer plays a significant influence in reducing costs	119	3.4	1.2
Mobile payments play a significant influence in reducing costs	119	3.6	1.3
<b>Average</b>	<b>119</b>	<b>3.6</b>	<b>1.1</b>

#### **4.5.4 Online Contract Management System**

There was also need to establish how online contract management system influences procurement performance of government ministries in Kenya. Results also showed that majority of the respondents indicated great extent performance of the ministry was 10%, very

great extent was 3%, not at all was 30% while little extent and moderate extent was 22% and 35% respectively.



**Figure 4.5: Online Contract Management System**

Results indicated that majority of the respondents agreed on the statement that monitoring the contract progress plays a significant influence in improving timely delivery. The mean for this statement was 2.8 while the standard deviation the variation in the responses was 1.4. Results indicated that majority of the respondents agreed on the statement that change management plays a significant influence in improving timely delivery. The mean for this statement was 3.3 while the standard deviation the variation in the responses was 1.4. Results indicated that majority of the respondents agreed on the statement that change management play a significant influence in improving timely delivery. The mean for this statement was 3.3 while the standard deviation the variation in the responses was 1.1.

Results indicated that majority of the respondents agreed on the statement that Evaluating the contract progress plays a significant influence in improving timely delivery. The mean for this statement was 4.2 while the standard deviation the variation in the responses was .9. Results indicated that majority of the respondents agreed on the statement that monitoring the contract progress plays a significant influence in attaining higher profit. The mean for this statement was 4.1 while the standard deviation the variation in the responses was 1.2. Results indicated that majority of the respondents agreed on the statement that evaluating the contract progress plays a significant influence in improving customer satisfaction. The mean for this statement was 4.3 while the standard deviation the variation in the responses was .7.

Results indicated that majority of the respondents agreed on the statement that monitoring the contract progress plays a significant influence in reducing costs. The mean for this statement was 4.4 while the standard deviation of the variation in the responses was .8. Results indicated that majority of the respondents agreed on the statement that change management plays a significant influence in reducing costs. The mean for this statement was 4.4 while the standard deviation the variation in the responses was 1.6. Results indicated that majority of the respondents agreed on the statement that evaluating the contract progress plays a significant influence in reducing costs. The mean for this statement was 4 while the standard deviation the variation in the responses was 1.6. The average for the statements on online contract management system was 4.0 with a standard deviation of 0.9. The results imply that an organization benefits greatly when online contract management system is embraced to reduce costs and to streamline sourcing management (Mwenda, 2020).

**Table 4.9 Online Contract Management System**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Monitoring the contract progress plays a significant influence in improving timely delivery	119	2.8	1.4
Change management plays a significant influence in improving timely delivery	119	3.3	1.1
Evaluating the contract progress plays a significant influence in improving timely delivery	119	4.2	0.9
Monitoring the contract progress plays a significant influence in improving customer satisfaction	119	4.1	1.2
Change management plays a significant influence in improving customer satisfaction	119	4.2	0.9
Evaluating the contract progress plays a significant influence in improving customer satisfaction	119	4.3	0.7
Monitoring the contract progress plays a significant influence in reducing costs	119	4.4	0.6
Change management plays a significant influence in reducing costs	119	4.4	0.8
Evaluating the contract progress plays a significant influence in reducing costs	119	4.4	0.6
<b>Average</b>	<b>119</b>	<b>4.0</b>	<b>0.9</b>

## 4.6 Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables. The correlation technique is used to analyze the degree of association between two variables. The results of the correlation analysis are summarized in Table 4.11

**Table 4.10: Summary of Correlations**

		<b>Online Inventory Management System</b>	<b>Electronic Vendor Evaluation System</b>	<b>Online Payme nts System</b>	<b>Online Contract Managemen t System</b>	<b>Procure ment Perform ance</b>
Online Inventory Management System	Pearson Correlation	1				
Electronic Vendor Evaluation System	Pearson Correlation Sig. (2- tailed)	.289** 0				
Online Payments System	Pearson Correlation Sig. (2- tailed)	.368** 0	.344** 0	1		
Online Contract Management System	Pearson Correlation Sig. (2- tailed)	.352** 0	.457** 0	.520** 0	1	
Procurement Performance	Pearson Correlation Sig. (2- tailed)	.479** 0.000	.323** 0.000	.628** 0.000	.676** 0.000	1

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

The correlation summary shown in Table 4.10 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the influence of IFMIS implementation on procurement performance of government ministries in Kenya, Pearson Correlation Coefficient computed and tested at 5% significance level.

The results indicate that there is a positive relationship ( $r=0.479$ ) between online inventory management system and procurement performance of government ministries in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p=0.000, <0.05$ ). The correlation analysis to determine the relationship between online inventory management system and performance of procurement performance of government ministries in Kenya, Pearson Correlation Coefficient computed and tested at 5% significance level.

The results indicate that there is a positive relationship ( $r=0.323$ ) between electronic vendor evaluation system and procurement performance of government ministries. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p=0.000, <0.05$ ). The correlation analysis to determine the relationship between online payments system and procurement performance of government ministries, Pearson Correlation Coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ( $r=0.628$ ) value for online payments system and procurement performance of government ministries. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p=0.000, <0.05$ ).

The correlation analysis to determine the relationship between online contract management system and procurement performance of government ministries, Pearson Correlation Coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship ( $r= 0.676$ ) between online contract management system and procurement performance of government ministries. In addition, the researcher found the relationship to be statistically significant at 5% level ( $p=0.000, <0.05$ ). Hence, it is evident that all the

independent variables could explain the changes in the procurement performance of government ministries on the basis of the correlation analysis.

#### **4.7 Regression Analysis**

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (procurement performance in the government ministries) which can be predicted from the independent variables (online inventory management system, electronic vendor evaluation system, online payments system and online contract management system.)

Table 4.11 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable (procurement performance in the government ministries) and the independent variables (online inventory management system, electronic vendor evaluation system, online payments system and online contract management system).

The independent variables reported R value of .775 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.6 means that 60% of the corresponding variation in procurement performance of government ministries can be explained or predicted by online inventory management system, electronic vendor evaluation system, online payments system and online contract management system, which indicated that the model fitted the study data.

Adjusted R square in table 4.11 is called the coefficient of determination which indicates how procurement performance of government ministries varied with variation in effects of factors which includes online inventory management system, electronic vendor evaluation system, online payments system and online contract management system. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at ( $\beta = 0.309$ ),  $p=0.002 < 0.05$ ).

**Table 4.11: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775 <sup>a</sup>	.60	.586	.16769

- a) Predictors: (Constant), Online Inventory Management System, Electronic Vendor Evaluation System, Online Payments System and Online Contract Management System  
b) Dependent Variable: Procurement Performance in the Government Ministries

**Table 4.12: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.809	4	1.202	42.749	.000 <sup>b</sup>
	Residual	3.206	114	0.028		
	Total	8.014	118			

- a) Predictors: (Constant), Online Inventory Management System, Electronic Vendor Evaluation System, Online Payments System and Online Contract Management System  
b) Dependent Variable: Procurement Performance in the Government Ministries

The significance value is 0.000 which is less than 0.05 thus the model is statistically significant in predicting how online inventory management system, electronic vendor evaluation system, online payments system, online contract management system influence procurement performance of government ministries in Kenya. The F critical at 5% level of significance was 26.80. Since F calculated which can be noted from the ANOVA table above is 42.749 which is greater than the F critical (value = 26.80), this shows that the overall model was significant. The study therefore establishes that; online inventory management system, electronic vendor evaluation system, online payments system, online contract management system were all important factors influencing procurement performance of government ministries. These results agree with Asaari and Razak (2020) results which indicated a positive and significant influence of IFMIS implementation on procurement performance of government ministries in Kenya.

**Table 4.13: Coefficients of Determination**

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.44	0.198		12.317	0.000
	Online Contract Management System	0.215	0.035	0.455	6.081	0.000
	Online Inventory Management System	0.146	0.045	0.214	3.27	0.000
	Online Payments System	0.11	0.024	0.334	4.662	0.020
	Electronic Vendor Evaluation System	0.03	0.033	0.062	0.921	0.030

a) Predictors: (Constant), Online Inventory Management System, Electronic Vendor Evaluation System, Online Payments System and Online Contract Management System

b) Dependent Variable: Procurement Performance in the Government Ministries

The research used a multiple regression model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where **Y**= Procurement Performance in the Government Ministries

**$\beta_0$** = Constant

**$X_1$** = Online Inventory Management System

**$X_2$** = Electronic Vendor Evaluation System

**$X_3$** = Online Payments System

**$X_4$** = Online Contract Management System

**$\epsilon$** = Error Term at 95% confidence level.

The regression equation is;

$$Y = 2.44 + 0.146X_1 + 0.03X_2 + 0.11X_3 + 0.215X_4$$

The regression equation above has established that taking all factors into account (online inventory management system, electronic vendor evaluation system, online payments system

and online contract management system) constant at zero, procurement performance of government ministries will be an index of 2.44. The findings presented also shows that taking all other independent variables at zero, a unit increase in online inventory management system will lead to a 0.146 increase in procurement performance of government ministries. The P-value was 0.00 which is less than 0.05 and thus the relationship was significant.

The study also found that a unit increase in electronic vendor evaluation system will lead to a 0.03 increase in in procurement performance of government ministries. The P-value was 0.03 and thus the relationship was significant. In addition, the study found that a unit increase in online payments system will lead to a 0.11 increase in the procurement performance of government ministries. The P-value was 0.00 and thus the relationship was significant. Lastly, the study found that a unit increase in online contract management system will lead to a 0.215 increase in the procurement performance of government ministries. The P-value was 0.00 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, online contract management system contributed most to the procurement performance of government ministries in Kenya.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter provides a detailed summary of the major findings of the actual study; it then draws conclusions and discusses implications emanating from these findings. Finally, it makes some recommendations and suggestions on areas of further study. The main aim of the study was to examine the influence of IFMIS implementation on procurement performance of government ministries in Kenya. It specifically sought to determine the influence of; online inventory management system, electronic vendor evaluation system, online payments system and online contract management system on the procurement performance in the government ministries in Kenya.

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

The study sought to examine the influence of IFMIS implementation on procurement performance of government ministries in Kenya. The study targeted staff of companies in the government ministries, specifically procurement. A total of 119 employees participated. The summary of the study findings presented herein followed the research objectives formulated in chapter one of the study.

##### **5.2.1 Online Inventory Management System**

The study sought to assess influence of online inventory management system on performance of procurement performance in the government ministries in Kenya as the first objective of the study. A majority of respondents were found to highly agree that the government ministries had embraced online inventory management system with regard to their procurement activities. Automated reorder system was common in the government ministries. Correlation and regression results revealed that this was an important variable that could perhaps be explained by the observation from the findings that online inventory management system was an important factor in influencing procurement performance in the government ministries.

### **5.2.2 Electronic Vendor Evaluation System**

The influence of electronic vendor evaluation system on procurement performance in the government ministries in Kenya was the second objective of the study. A majority of respondents were found to highly agree that the government ministries had embraced electronic vendor evaluation system with regard to their procurement activities. Financial capacity and quality indexing were common in the government ministries. Correlation and regression results revealed that this was an important variable that could perhaps be explained by the observation from the findings that electronic vendor evaluation system was an important factor in influencing procurement performance in the government ministries in Kenya.

### **5.2.3 Online Payments System**

The study endeared to assess influence of online payments system on procurement performance in the government ministries in Kenya as the third objective of the study. A majority of respondents were found to highly agree that the government ministries had embraced online payments system with regard to their procurement activities. Alignments of goals and mobile payments were common in companies in the government ministries. Correlation and regression results revealed that this was an important variable that could perhaps be explained by the observation from the findings that online payments system was an important factor in influencing procurement performance in the government ministries.

### **5.2.4 Online Contract Management System**

The study sought to assess influence of online contract management system on procurement performance in the government ministries in Kenya as the last objective of the study. A majority of respondents were found to highly agree that the companies in the government ministries had embraced online contract management system with regard to their procurement activities. Eco-product designs and eco-material sourcing were common in the government ministries. Correlation and regression results revealed that this was an important variable that could perhaps be explained by the observation from the findings that online contract

management system was an important factor in influencing procurement performance in the government ministries.

### **5.3 Conclusion of the Study**

Based on the study findings, the study concludes that procurement performance in the government ministries can be improved by online inventory management system, electronic vendor evaluation system, online payments system and online contract management system. First, in regard to online contract management system, the regression coefficients of the study show that it has a significant influence of 0.215 on procurement performance in the government ministries. This implies that increasing levels of online contract management system by a unit would increase the levels of procurement performance in the government ministries by 0.215. This shows that online contract management system has a positive influence on procurement performance in the government ministries.

Second in regard to online inventory management system, the regression coefficients of the study show that it has a significant influence of 0.146 on procurement performance in the government ministries. This implies that increasing levels of online inventory management system by a unit would increase the levels of procurement performance in the government ministries by 0.146. This shows that online inventory management system has a positive influence on procurement performance in the government ministries. With regard to online payments system, the regression coefficients of the study show that it has a significant influence of 0.11 on procurement performance in the government ministries. This implies that increasing levels of online payments system by a unit would increase the levels of performance of the companies in the government ministries by 0.11. This shows that online payments system has a positive influence on procurement performance in the government ministries.

Lastly, in regard to the fourth objective, the regression coefficients of the study show that it has a significant influence of 0.03 on procurement performance in the government ministries. This implies that increasing levels of electronic vendor evaluation system by a unit would

increase the levels of procurement performance in the government ministries by 0.03. This shows that electronic vendor evaluation system has a positive influence on procurement performance in the government ministries. Drawing on this research, lack of online inventory management system, electronic vendor evaluation system, online payments system and online contract management system in the government ministries is leading to poor performance.

#### **5.4 Recommendations of the Study**

Regarding online inventory management system, to ensure that the government ministries have better procurement performance they should focus more on using their online inventory management systems so as to ensure that there is automation in re-ordering and ensure that there is consistency of quality in goods supplied. With regard to the second objective, it would be constructive for the government ministries to invest more in electronic vendor evaluation system to reduce the cost of procurement through unnecessary reworks and ensure professional suppliers get it right the first time. This should be done consistently with the partnerships, training and capacity building. This will include issues such as quality indexing.

In relation to online payments system, the organizations should arrange for platforms such as real time gross settlement with their vendors so as to have a more improved working relationship characterized by joint planning and mobile payments. If the government ministries embrace online payments systems among its suppliers, then there will be improving timely delivery and timing of delivery will improve. Concerning online contract management system, there is need for the government ministries to always monitor the contract progress and change management.

#### **5.5 Areas for Further Research**

The study is a milestone in the field of procurement performance in the government ministries in Kenya. The findings demonstrated the important IFMIS implementation aspects in the government ministries to include; online inventory management system, electronic vendor evaluation system, online payments system and online contract management system. The current study obtained an  $R^2$  of 60% and should therefore be expanded further in future in order to include other IFMIS aspects that may as well have a positive significance to procurement performance in the

government ministries. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored IFMIS aspects herein can be generalized to affect performance in other institutions.

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## **APPENDICES**

### **Appendix I: Introduction Letter**

Dear Respondent,

I am a student at KCA University pursuing a graduate degree in Masters of Business Administration in Procurement and Supplies. I am conducting research on influence of IFMIS implementation on procurement performance of government ministries in Kenya.

Your participation in this evaluation is greatly appreciated and information given will be treated in strictest confidence. Your assistance in filling this questionnaire is highly appreciated.

Thank you.

Yours Faithfully,

**JOSEPH KAMAU**

**Reg. No. 21/00767**

## Appendix II: Questionnaire

*This questionnaire has been set in relation to the objectives of the study. All the questions relate to influence of IFMIS implementation on procurement performance of government ministries in Kenya. Kindly read the questions carefully and answer them as honestly as possible by ticking (✓), rating, specifying or writing the correct answers precisely on the spaces provided.*

### SECTION 1: RESPONDENT'S INFORMATION

1. Department of the respondent .....

2. Kindly indicate your age? (Please tick in the appropriate bracket)

18-30 years [ ] 31-40 years [ ] 41-50 years [ ] above 50 years [ ]

3. What is your level of education? (Please tick in the appropriate bracket)

Diploma [ ] Undergraduate [ ] Post-Graduate [ ]

4. Number of years served in your current office

0-3 [ ] 3-5 [ ] 6-8 [ ] 9 and above [ ]

**SECTION 2: Online inventory management system**

6. What are as the major issues facing online inventory management system in the procurement department?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

7. Kindly indicate to what extent does online inventory management system influence procurement performance?

- a) Very Great Extent
- b) Great Extent
- c) Moderate Extent
- d) Little Extent
- e) Not at All

8. Please indicate the extent to which you agree or disagree with the following statements on the influence of online inventory management system on procurement performance. (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).

		1	2	3	4	5
a)	Automated reorder system greatly reduces delivery time					
b)	Material requirement planning greatly reduce delivery time					
c)	Bar coding of items greatly reduces delivery time					
d)	Automated reorder system greatly influences customer satisfaction					

e)	Material requirement planning greatly influence customer satisfaction					
f)	Bar coding of items greatly influences customer satisfaction					
g)	Automated reorder system greatly reduces costs					
h)	Material requirement planning greatly reduces costs					
i)	Bar coding of items greatly reduces costs					

**SECTION 3: Electronic vendor evaluation system**

9. What are the major issues facing electronic vendor evaluation system in the procurement department?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

10. Kindly indicate to what extent does electronic vendor evaluation system influence procurement performance?

- a) Very Great Extent
- b) Great Extent
- c) Moderate Extent
- d) Little Extent
- e) Not at All

11. **Please indicate the extent to which you agree or disagree with the following statements on the influence of electronic vendor evaluation system on procurement performance. (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Establishing the financial capacity greatly reduces delivery time					
b)	Establishing the supplier quality index greatly reduces delivery time					
c)	Establishing the technical capacity reduces delivery time					
d)	Establishing the financial capacity greatly influences customer satisfaction					

e)	Establishing the supplier quality index greatly influences customer satisfaction					
f)	Establishing the technical capacity greatly influences customer satisfaction					
g)	Establishing the financial capacity greatly reduces costs					
h)	Establishing the supplier quality index greatly reduces costs					
i)	Establishing the technical capacity greatly reduces costs					

**SECTION 4: Online payments system**

12. What are the major issues facing online payments system in the procurement department?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

13. Kindly indicate to what extent does online payments system influence procurement performance?

- a) Very Great Extent
- b) Great Extent
- c) Moderate Extent
- d) Little Extent
- e) Not at All

14. **Please indicate the extent to which you agree or disagree with the following statements on the influence of online payments system on procurement performance. (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Electronic funds transfer greatly reduces delivery time					
b)	RTGS greatly reduces delivery time					
c)	Mobile payments reduce delivery time					
d)	Electronic funds transfer greatly influences customer satisfaction					
e)	RTGS greatly influences customer satisfaction					
f)	Mobile payments greatly influence customer satisfaction					

g)	Electronic funds transfer greatly reduces costs					
h)	RTGS greatly reduces costs					
i)	Mobile payments greatly reduce costs					

**SECTION 5: Online contract management system**

15. What are the major issues facing online contract management system in the procurement department?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

16. Kindly indicate to what extent does online contract management system influence procurement performance?

- a) Very Great Extent
- b) Great Extent
- c) Moderate Extent
- d) Little Extent
- e) Not at All

17. **Please indicate the extent to which you agree or disagree with the following statements on the influence of online contract management system on procurement performance. (Please Tick 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for neutral”, 4 for “Agree” and 5 for “Strongly Agree”).**

		1	2	3	4	5
a)	Monitoring the contract progress greatly reduces delivery time					
b)	Change management greatly reduces delivery time					
c)	Evaluating the contract progress reduces delivery time					
d)	Monitoring the contract progress greatly influences customer satisfaction					
e)	Change management greatly influences customer satisfaction					

f)	Evaluating the contract progress greatly influences customer satisfaction					
g)	Monitoring the contract progress greatly reduces costs					
h)	Change management points greatly reduces costs					
i)	Evaluating the contract progress greatly reduces costs					

**SECTION 6: Procurement Performance of Government Ministries**

(Please indicate by ticking the margin of delivery time improvement over the last five years)

18. Delivery Time

Category	2017	2018	2019	2020	2021
Time (In Weeks)					
<b>0-1</b>					
<b>1-2</b>					
<b>2-3</b>					
<b>3-4</b>					
<b>Over 4</b>					

(Please indicate by ticking the margin of customer satisfaction attained as indicated by both internal and external customer surveys over the last five years)

19. Customer Satisfaction

Category	2017	2018	2019	2020	2021
Customer Satisfaction Percentage (%)					
<b>00-05</b>					
<b>05-10</b>					
<b>10-15</b>					
<b>15-20</b>					
<b>Over 20</b>					

**(Please indicate by ticking the margin of reduced costs as indicated over the last five years)**

**20. Reduced Costs**

Category	2017	2018	2019	2020	2021
Costs Ksh (In Millions)					
<b>0-1</b>					
<b>1-2</b>					
<b>2-3</b>					
<b>3-4</b>					
<b>Over 4</b>					

**THANK YOU FOR YOUR TIME AND PARTICIPATION**