

**PROCUREMENT PRACTICES AND SUPPLY CHAIN PERFORMANCE OF
TELECOMMUNICATION FIRMS IN KENYA**

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D61/60128/2013

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTER OF BUSINESS
ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

OCTOBER, 2016

DECLARATION

I declare that this research project is my original work and has never been submitted to any other University for assessment or award of a degree.

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DEDICATION

The research is dedicated to my grandfather Lando Rarondo and my father Opio Lando for the tireless motivation throughout the entire MBA program.

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to all those who have contributed to make my research work successful in various ways. I feel indebted to my Supervisors Mrs. Salome Kinyua, Mr. Ernest Akelo and the department of Management Science, School of Business, University of Nairobi.

Special thanks go to my family and especially my Dad, Mr. Opio Lando for seeing the potential in me and encouraging me to further my studies. I also wish to express my heartfelt gratitude to my dear wife Millicent Wasonga, and our children Electine, Habibah and Mirik for the moral support in the course of my study.

May you all be blessed.

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ABBREVIATIONS AND ACRONYMS

BSC	-	Balanced Score Card
CA	-	Communications Authority of Kenya
CIPS	-	Chartered Institute of Procurement & Supply
EDI	-	Electronic Data interchange
ISP	-	Internet service provider
ICT	-	Information and Communications technology
IPR	-	Internal purchase requisitions
ISR	-	Internal Supply Requisition
KEPSA	-	Kenya Private Sector Alliance
KPI	-	Key Performance Indicator
LPO	-	Local Purchase Orders
NIGP	-	The Institute for Public Procurement
NT	-	Network Theory
OECD	-	Organization for Economic Cooperation and Development
PPADA	-	Public Procurement and Asset Disposal Act
SCM	-	Supply Chain management
SCOR	-	Supply Chain operations Reference Model
TESPOK	-	Technology Service Providers of Kenya

ABSTRACT

The main objective of this study was to establish how procurement practices and supply chain performance relate. The study aimed to achieve the following specific objectives: to determine the extent which procurement practices are adopted by telecommunication firms in Kenya and to determine the relationship between procurement practices and supply chain performance of the telecommunication firms in Kenya. The study employed descriptive cross sectional survey design. Eight telecommunication firms were purposively sampled from all the players in the telecommunication firms in Kenya. Descriptive statistics and inferential statistics were used to analyze the data. The study established that all firms in the telecommunication industry employed the following procurement practices; Supplier partnerships, adoption of information technology, Contract monitoring and control and lean procurement. The practices were adopted to streamline and make procurement process more efficient and enhance centralized procurement system hence reducing costs. Rating of the procurement practices indicated that; contract monitoring and control was the most rated followed by adoption of information technology i.e. e-Procurement then supplier partnerships and lean procurement. The study concludes that out of the procurement practices discussed in this study notably; supplier partnerships, Information technology, contract monitoring and control and lean procurement, contract monitoring and control contributes highly to supply chain performance.. The study recommends that telecommunication should intensify contract monitoring and control to enhance supply chain performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Until recently procurement in Kenya had been greatly underestimated and was not seen as critical to business performance and competitiveness, but was considered a clerical job subjected to purchasing. However, this has transformed with recent developments in the Government focusing more on public procurement. The Telecommunications industry in Kenya is very dynamic and has rapidly evolved in the recent years attracting many new players, new customers and new products. These changes have come as a result of huge investments that should be monitored in terms of best procurement practices.

Procurement practices play a very critical role in the organization as they affect the organizational operation as well as cut across all other departments (Wachira, 2013). Procurement is not only concerned with the process of obtaining goods or services but also involves borrowing, outsourcing, leasing or even force or pillage. Procurement, defined as the process of obtaining goods or services also includes borrowing, outsourcing, leasing or even force or pillage. Procurement practices affect a range of activities in an organization. These range from the type of products produced by the organization, acquisition of assets and their life span, human resource team as well as the morale of the personnel. All assets procured have a shell life after which they are disposed after attaining certain age or after their useful life (Waters, 2004).

Procurement in Kenya has gone through significant developments from 1960's, 1990s to date. We currently have the Public Procurement and Asset Disposal Act (2015) which have shaped the procurement practices in Kenya in terms of new standards. The Act is as a result of development of the Public Procurement and Disposal Act (PPDA) of 2005 and Procurement Regulations of 2006. Wachira (2013), states that organizations generally fall into two major categories, private and public, creating basis under which procurement is considered as either public procurement or private procurement. Public procurement, world over, is governed by government legislations whereas private procurement cannot

be strictly governed by government legislation. Irrespective of the organization category procurement cannot escape challenges such as corruption, waste and integrity issues.

1.1.1 Procurement Practices

Procurement practices entail the use of stipulated policies, procedures tolls and activities in acquiring goods and services (Canada, 2012). The role of procurement practices in business set ups has become more important and changed abruptly, from the perceived role of administrative and clerical to a strategic position so as to attain competitive advantage in the organizations (Allal-Chérif & Maira, 2011). Tuner (2011) holds that, the adoption of procurement practices presents a paradigm shift from tradition practice hence the need to utilize its value proposition with the aim of achieving competitiveness in the procurement arena. The procurement best practices as outlined by Arawati (2011) are; focus on total quality management (TQM), application of just in time strategy, adoption of total cycle time reduction, building health vendor relations, devising long term strategic plans, cost management, embracing employee training and development, the practice of corporate social responsibility (CSR), management and leadership as well as learning. Other procurement practices such as procurement risk management, team based approaches to procurement, procurement ethics, adoption of technology, supplier partnerships, monitoring od contracts and control, choice of procedure used to procure, projecting and supply performance affect firms in attaining the intended collaboration and communication potentiality, as the organization maintain market oriented potentiality of flexibility and responsiveness.

Telecommunication firms largely outsource most of their operations such as maintenance and installations to third parties, and therefore have a supply chain with numerous suppliers. The procurement practices suitable for this study are therefore; Supplier Partnerships, Adoption of technology such as e-Procurement, Contract monitoring and control and Lean procurement. The practices are aligned to quality, financial and productivity performance. The biggest proportion of the telecommunication companies are private companies hence the procurement practices and policies are not treated equally to public agencies that rely highly on public procurement and act of disposal. In the private sector therefore, the financing towards procurement of goods and services or

capital investment must satisfy the management that the utility acquired will serve the intended purpose, is of high quality, the prices will be within the market range and reasonable contracting terms are in accordance with the existing market practices (Ireland *et al.*, 2012).

1.1.2 Supply Chain Performance

Performance of Supply Chain is viewed as a competitive strategy that enhances an organizations productivity and profitability. The intensity of these measures in the success of any firm cannot be overlooked as it affects long term, short term and operational planning and control. Zhang and Okoroafo, (2015) define Supply chain performance as the organizations ability to lower cost of logistics by delivering the right product at the right place at the right time. According to Vogel (2011), procurement performance is highly influenced by macro factors namely corporate supply chain and supply chain management. It is on this basis that firms have shifted from individual organizational performance to procurement and supply chain performance in order to enhance bottom line performance within the whole chain. Telecommunication firms are service based organizations that strive to meet customer needs at low cost without compromising quality. The firms are therefore forced to measure performance to enable them identify problem areas and come up with solutions that will ensure better service delivery at affordable cost.

Performance measurement is crucial in managing the telecommunication firms in Kenya that operate in a volatile environment where they are faced by competition from both local and global markets. Telecommunication firms should employ appropriate set of metrics to enable them observe the progress in implementing strategies, identifying areas that need improvement, as well as comparing themselves with competitors and market leaders. This is necessary for audits on spend analysis, tenders and contracts as they provide the necessary information for managers so they can take the right decisions at the right time. The most significant difficulties associated with performance evaluating is the attempt to analyse too many indicators, this poses as one of the most important problems associated with organizational performance measuring (Shaw & Grant 2010).

1.1.3 Telecommunications firms in Kenya

Communications Authority of Kenya (CAK) regulates telecommunication firms in Kenya. The Authority executes its mandate along with an establishing Act; Communications Authority of Kenya (CAK) regulates telecommunication firms in Kenya. The Authority executes its mandate along with an establishing Act, The Kenya Communications Act as well as the Kenya Communications (Amendment) Act, 2009. According to the Communications Act (2014) the framework for regulates the communications sector in Kenya. The technological advances and regulatory restructuring in Kenya has seen the telecommunications and internet industry undergo significant transformation. According to Pyramid research in 2013, telecommunications sector in Kenya was rated the fastest-growing telecommunications sectors in Africa, having generated US\$1.7 billion in 2012, and was forecasted to grow at a compound annual growth rate of 6% up to 2017. This constitutes 4.6% of the overall GDP for Kenya (\$37.23 billion, 2012).

The industry has enjoyed liberalization in Kenya from mid-2000. Other than voice, data and internet provision has is now being offered by the telecom firms in Kenya. The once monopolized industry has seen an increase in the market players with heightened competition. The industry now has over 5 major players offering fiber and internet service provision. A few of the firms include; Orange Telkom, Jamii Telekom, Liquid Telecom, Safaricom and Airtel

The Information and Communications Technology Authority (ICTA) was formed to control and ensure regulation of the sector in 2013 after reorganization of the Kenyan government. ICTA handles many telecom updates, such as the National Optical Fibre Backbone Infrastructure (NOFBI) development project, digital inclusion and public sector shared services (Ministry of Information, Communication and Technology press release, 2013). TESPOK (Technology service providers of Kenya) formerly Telecommunication Service Providers of Kenya is now an all-inclusive arm that represent telecom operators, software developers, ICT hubs and hardware handlers. According to TESPOK there are a total of 40 registered telecom firms.

1.2 Research Problem

According to Markus *et al.* (2013), the impact of telecommunications in Kenya has received much attention, considering the introduction of new products and the increase of players in the field. Adoption of procurement procedures cut across critical process of organizations operations. Therefore, successful adoption and implementation are key in sustenance of organizations (Markus *et al.*, 2013). Research by Hassanzadeh and Jafarian (2010), commends that in supply chain, procurement best practices are perceived as a strategic pillar to achieve efficiency, profitability and cost minimization and identification of alternative better sources of supply.

Archie and Lockamy (2004) study on Linking SCOR planning practices to supply chain performance infers that there is no practice that has most influence on supply chain performance. Holm (2012) study on dynamic procurement management asserts that procurement should not be looked from clerical point of view but should take a new strategic management practices for organizations efficiency, effectiveness and better performance.

Kilonzo (2014) researched on Procurement best practices and organizational performance and found out that procurement practices are as ever changing as the business environment itself. Rotich (2014) researched on Dynamic Procurement Practices and Supply Chain Performance of Supermarkets in Kenya and established that a larger proportion of respondents concur that the adoption of dynamic procurement practices influence the supply chain performance. Kiprop (2014) researched on Public procurement procedures and supply chain performance in state corporations in Kenya and found out that staff qualification and experience influenced the supply chain performance in parastatals. The researchers bring out the place of procurement practices in organizations, as well as the different approaches that are employed during procurement. They specifically point out the important role procurement practices play in ensuring smooth running of organizations due to available resources. An indicator that organizations are busy employing procurement practices to improve their general performance and net out a better profit, thus adding value to the lives of their stake holders. Mugaro (2016) researched on factors affecting fiber optic roll-out projects in telecommunications

industry in Kenya and found out that the organization lacked policies, ethical standards and staff competency was also questionable.

From the above mentioned empirical studies it is clear that there are very few previous studies on procurement practices and supply chain performance in telecommunications firms making this research very useful in providing solutions and direction. With an ever changing business environment, procurement departments are committed to deliver value for money to the stakeholders. This study seeks to investigate how procurement practices influence supply chain performance in telecommunications firms. The aimed to determine the relationship between procurement practices and supply chain performance by answering the following research questions: What procurement practices are adopted by Telecommunication firms in Kenya? And what is the relationship between procurement practices and supply chain performance in Telecommunication firms in Kenya?

1.3 Research Objectives

The research objectives were:

- i. To establish the extent to which procurement practices are adopted by Telecommunication firms in Kenya.
- ii. To determine the relationship between procurement practices and supply chain performance of Telecommunication firms in Kenya.

1.4 Value of the Study

The research findings will be of value to members in the telecommunications industry as it will help them to improve in future by employing the right procurement practices. The findings will also benefit researchers in the area of procurement and supply chain; it will serve as a reference point for further research.

The study results are of immense value to the policymakers in telecommunications industry to draft policies that will govern the industry. The researcher feels that the findings and recommendations generated from the study may be of invaluable input to

the stakeholders of telecommunication industry in general both in Kenya and elsewhere and also to other organizations in both public and private sector.

The findings will be beneficial to academicians who wish to research further on procurement practices in relation to supply chain performance in telecommunication firms. Findings are anticipated to add more knowledge on the existing body of knowledge in the subject area.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the literature review relevant to this study. The theories reviews are resource based theory and the contract theory. The chapter also presents an overview of procurement practices and review studies on effects of procurement practices and its effects on organizational performance.

2.2 Theoretical Foundation

Several theories in procurement and supply chain field have been developed and used in relevant studies. As for this study, Network theory and the contract theory were used.

2.2.1 Network Theory

The network theory (NT) provides deep understanding of the many sides of inter organizational relations on insisting the benefits of relationships that happen in the organizational parties, development of long term relations that result to trust and cooperative relations as well as mutual relationships in work routines proliferated by exchange processes. By developing this kind of network, the relationships relay the sense of being unique hence leading to supply chain as a personalization to achieve personal customer requirements. The parties involved in this kind of relationship develop trust through social exchange processes (Johanson & Mattsson, 1987).

The rationale to adopt the network theory is its descriptive nature which has been adopted in supply chain management to mark activities and resources in a supply chain. The aim is to build long term relationships and trust within the supply chain. An example of network theory application include; seller –vendor relationships.

Telecommunications being an organization that procures a number of good and services, greater collaboration with the suppliers underlines the use of network theory

2.2.2 The Contract Theory

As it is applied in economics, the contract theory observes how economic actors are capable of and develop contractual arrangements with the asymmetrical information. Due to its relationship with both agency and motivators, it's often classified in the area of economics and law. One known area of its application is the design of maximal schemes of management and compensation (Laffont & Mrtimort, 2012).

A known practice in the microeconomics of the theory is its application in the representation of a decision maker in the light of numerical utility components and then apply maximization algorithm to find the maximal decisions. This type of procedure has been utilised in a number of field notably the contract theory framework to numerous common situations, signalling, adverse selection and identified moral hazards. The formations of these models are identified in looking for theoretical mechanisms to apply necessary actions even where insurance contract holds.

As per the application of contract theory, the major achievements include; relaxation of assumptions, principal and agent mathematical structure and time structure variations of the contract associations among many others (Lysons, 2010).

Recent findings with the high risk outsourcing activities have questioned the outcome of the standard contracting literature. The important but common assumption in the theory lies on the concept that the incentive contract is applicable under low costs and that the contractor is liable for any contracted work basically through the court. Nevertheless, this is not always the case. The substandard service delivered by the Iraq contractors according to Krugman (2013) has resulted to prosecution of many. In the contract theory, there are two critical issues which are accountability and enforceability. In such adverse situations, institutions can't afford to engage in contacts that will fail or lead to major failures among the associated parties. Therefore, based on this theory, contractors have to include risk premiums as they are accountable of every action. Secondly, this is a suitable solution to a reasonable intensity of risk. However, Wenz (2011) argues that, in the light of such contract risk premium, if the risk is bigger, a compatible risk premium might be unavailable to cover the risk.

Telecommunication industry being a sensitive field that handles good informed clients, the firms has to ensure customer satisfaction. Therefore, it is important to all the suppliers in the industry to abide by the set terms and conditions of the contracts. Any changes as to affect the contract terms have to be communicated in time to obviate any loss due to customer frustration or legal suit.

2.3 Procurement Practices

The procurement practices are concerned with acquisition of goods and services from reliable sources to ensure the organization meets their strategic goals in an efficient, effective and economic way. Chartered Institute of Procurement and Supply together with the Institute for Public Procurement, on procurement practice, hold that, firms have to devise comprehensive policy procedures and directions that highly defines the authority, responsibility and lay down the guidelines for the procurement professionals and associated parties to follow in executing their roles. According to Monczka *et al.* (1998) good procurement practices result to; effect on quality, savings on cost and contribution in the technology advancement. Singhal (2011) notes that, disruptions in the procurement practices within the global scope ravage the organizational performance. In this case, poor procurement practices have implicit effect on company share prices and profitability hence the need to curb any loophole that can affect business continuity (Christopher *et al.*, 2008). These practices can be applied interchangeably based on the firm's size and given that all the practices are linked. Therefore, the practices adopted must be a projection of the long term state of the company. In light of these, the study focuses on supplier partnerships, use of information technology, lean procurement and contract monitoring and control.

2.3.1 Supplier Partnerships

According to Li *et al.* (2005), strategic supplier association is referred to as the durable relationship that involves the organizations and their supplier's. This relationship affects the strategic and operational potentials of the firms individually participating in the association, which helps achieve the planned and on-going benefits from supplier partnerships.

A well strategized supplier partnership includes purchase of products and services from suppliers and impacting the suppliers system and operational capabilities, adding value and improving the supply chain performance (Monczka *et al.*, 1998; Sufian, 2010). There are a lot of uncertainties in supply markets that can only be controlled when companies change their outlook from procurement to supply management. The strategic supplier practice is not a new argumentation; however, it is taking a new direction of dynamic aspect of strategic supplier partnership (Li *et al.*, 2006). Firms may decide to engage suppliers early and involve them in their operational activities, product developments with an effort to achieve designs that are not costly, enjoy improved high quality products and reduced lead time (Tan *et al.*, 2002). Product success is important and therefore strategic supplier relationship enables companies to work closely with their suppliers towards achieving this goal (Li *et al.*, 2005).

Quick response procurement practice provides a transparent window to suppliers to focus on what retailers order allowing for knowledge of the orders before the order is actually made; this is through incorporation of (EDI) that makes it possible for information sharing through use of information technology. Example of such service is electronic data interchange (EDI) point of sale which allows supplier to know the actual clients demand pattern of fast moving goods that in turn enables the supplier to prepare for the next order before the actual order is placed. This is made possible through electronic connection. Supplier's practice of early participation in the product-design process offers more cost effective design choices, aid best component selection, design assessment and alignment of organizations to work closely. The benefit of the practice is elimination of wasteful time and effort which promotes cooperation, openness of communication and a problem-sharing attitude (Balsmeier *et al.*, 2012).

2.3.2 Adoption of Information Technology

The fraud risk rampant in the public procurement was engineered as insider-driven specifications coupled with biased application of procurement practices as well as ample chances for term renegotiations. The study shown that risk in the procurement may be intensified by the increased innovative procurement processes that affect continuity between the firms and the tenderers as well as public bodies (Dorn, Levi & White, 2008).

Technology is vital in ensuring effective procurement practices to attain success factors since such as end-user behaviour, supplier and contractor management, the use of electronic procurement processes and IT and e-procurement infrastructure. In June 2015, Kenya Private Sector Alliance (KEPSA) welcomed plans to enforce the use of e-Procurement.

E-Procurement aims to bring aboard effective decision making owing to the fact that tendering is competitive and transparent to the company. In the context of ethics as procurement practice, transparency refers to the stakeholder's ability to evaluate the terms and procedures, in which vendors are defined, retributed and managed Sengbeh (2015). Coupled with a relational database management all departments operate in an electronic community where information is accessible from site survey, installation, commissioning and billing. There is a reduced transaction cost since use of paperwork in processing Internal purchase requisitions (IPRs), Internal Supply Requisition (ISRs) and Local Purchase Orders (LPOs) is completely eliminated. Thurston (2002) posits that the procurement process requires records which are also critical to the operations of any organization. The improved process efficiency in e-Procurement comes along with documentation and storage of records. The human brain cannot document and store many records as the system. Liquid Telecom has numerous operations handled by different departments, the accuracy of documentation and record keeping may pose challenge to the staff in the departments that relate with procurement. It would be easy to integrate the processes in e-Procurement and ensure that all records are stored properly.

Supplier data can easily be captured through e-Procurement systems, and this will enable the company to rate the performance of all providers transparently. This is a greater move in value achievement since the firm will only deal with suppliers who score high marks on performance, contributing largely to cost saving. This kind of customer supplier relationship management developed by e-Procurement reduces cycle time for orders due to improved communication. It saves inventory costs in the warehouse during issuing, there is a clear documentation and transparency on issuing of items such as switches, fiber cables. Since all materials purchased and received are recorded in the system, issuing out becomes easy since there is accountability. Recovered items such as defective

switches, cabinets and back up batteries are easily accounted for because they are recorded in the system.

Alt and Puschmann (2005) opined that procurement systems have long been supported by ICT. E-Procurement system therefore requires an ICT platform to operate effectively. ICT enables organizations to decentralize operational procurement processes and centralize strategic ones due to higher transparency. Decentralization injects a lot of time saving in the process, materials normally imported can be sourced locally reducing the time taken to connect customers. Supplier's reaction to market changes is real time. ICT connects the various stages of the system, allowing them to coordinate and maximize total supply profitability. Managers have realized that the Information communication technology can enhance procurement decisions making by providing real-time information and enabling collaboration between trading partners (Power & Simon, 2004).

2.3.3 Contract Monitoring and Control

Brown and Hyer (2010), describe monitoring as the tracking aimed at identifying variances from the original plan using simple checklist to sophisticated dashboard style approaches. All contractors awarded tenders such as fiber trenching, WiMAX installations, resellers and support firms should all commit to the terms and conditions spelled out as well as also providing for termination conditions. User departments are tasked with an oversight duty to report any deviations from service level agreements to procurement department; to forward particulars of such deviations and inconsistencies, for example wayleaves, new rates and addendums to contracts to the procurement unit for consideration and action; and last keep custody of the service level agreement. The user departments are also charged with the responsibility to undertake conformity inspection of delivered materials, works in process and services specified in the project contract documents. According to Meredith and Mantel (2012), cost (budget) and scope (performance) and time (schedule), are important things to be considered during planning, and should therefore be monitored and controlled effectively.

Until the project is complete the cycle of planning, monitoring and exercising control should be made a routine. The organization structure should construct the process as an

integral part ensuring that it does not cause any conflicts. The organization should clearly outline the aspects for monitoring and control bearing in consideration the scope, boundaries, time and cost. During the life of a project the team in charge of monitoring should develop appropriate approach for monitoring the Key Performance Indicators (KPI's). According to Brown and Hyer (2010) the concept of project control is a combination of decisions, procedures, decisions and actions included in coping with the project variances.

Project control therefore acts as a guide to the firm and influences the decisions on when to make changes or focus on the project course. According to Brown and Hyer (2010) in their view to monitor and control contracts assert that several issues interfere with project execution causing the actual/real performance to deviate from the budgeted performance. The issues are: (i) Scope Creep; which basically refers to a situation where the project grows beyond its initial size. This may be caused by new government rates that will influence wayleaves causing the customers' needs to inflate the budget (ii) Murphy's Rule; which asserts that you cannot be accurate and anticipate all risks. The government may decide to construct new roads where already there is an existing fiber cable entrenched; the relocation of such a network was not anticipated and would be costly. (iii) Pareto's principle; which states that 80% of project's limitations and postponement are caused by 20% of project actions. Red tape in organizations may lead to delays in take-off of projects. (iv) Increase of Commitment principle which holds that, people persist in engaging in failing course of action even at the state of fallacy intent. Therefore a procurement service level agreement monitoring initiative can have a strong influence on decisions to escalate or de-escalate commitment.

2.3.4 Lean Procurement

Lean procurement practice refers to lean principles, practices and techniques that improve customer satisfaction through elimination of waste and system's improved continuity. Lean procurement practice aims to achieve minimized cost, high quality products or services and improved systems and processes efficiency with less effort (Agus *et al.*, 2012). An organizations benefit of lean procurement practice include reduced cost, better quality, expedited delivery and system flexibility (Ugochukwu *et al.*, 2012). The lean

concept is a brain child of Toyota and has helped organizations achieve more with less manual input, less cost & time (Womack *et al.*, 1994). Lean is an evolving concept and its growth is very dynamic with rapidly increasing popularity as a procurement management approach and within entire supply chain management (Hines *et al.*, 2004). The lean procurement practice has embraced all the activities through the life cycle of a product, from the product inception and design to the product selling and from the end user order to the delivery by supplier (Anand & Kodali, 2008).

The lean principle can be traced to Toyota Company with its emphasis to minimize and reduce waste within the company production system (Ohno, 1988). Abernathy (2000) argued that retailers that work based on lean, requires rapid replenishment of products, calling for strict deadlines in terms shipment the delivery times. Also holds that orders should be complete and accurate. The practice includes finding out customers desire in products or services, and identifying the value flow starting from suppliers side to the end customers and waste exposure, avoiding delay down times through organization of organizations' systems, reduction or elimination of scraps, Provision to customer of exactly amount of what is required and just when its required, continuous improvement of system and always search for problems and solve them when identified. Integrated supply chain, effective information as well as communication sharing, managing demand, end customer focus, continued improvement, minimal stock/inventories and use of few vendors make up lean procurement practice (Womack *et al.*, 1996).

2.4 Supply Chain Performance

Performance of supply chain metric includes the following supply chain processes/procedures: planning, sourcing, making/assembling/manufacturing and delivering to the end user/customer. These activities are considered at operational, tactical and strategic levels of management (Stewart, 1995; Gunasekaran *et al.*, 2004). A company with different units solely dependent on procurement department should be integrated into a supply chain for effective cross functional communication. The two essential requirements for supply chain performance are proper integration in the partnerships with suppliers and the effective utilization of information technology.

According to Golrizgashti 2014 financial, internal processes, innovation, improvement, and customers are measured by the Balanced Scorecard (BSC) proposed by Kaplan and Norton. This method is constantly applied to evaluate the company activities and processes on the strategic height.

2.5 Conceptual model

This research sought to relate procurement practices and supply chain performance in telecommunication firms in Kenya. The procurement practices are 1) Supplier Partnerships 2) Adoption of Information technology 3) Contract Monitoring and Control 4) Lean Procurement. No one type of practice appears to dominate the rest of the discipline. Telecommunications firms need to evaluate their procurement practices in order to adopt practices that will enable improvement in their performance. It is highly notable that most of the studies that had been carried out are mostly concentrated on public procurement practices hence there is need to carry out similar research based on private procurement context. Additionally, no study has been conducted based on telecommunication industry in Kenya.

2.6 Summary of Literature and Gaps

In the view of Government Accountability Office (2005) creating a suitable manpower in the procurement with the right skills and the will is a challenge, due to the escalating procurement processes, development and changing contracting approaches and increased dependence on the utilities provided by the public sector. Huge sums of money are misappropriated by the existing procurement processes, reduced competition, high inflation brought about by market perception of risk and huge efforts to tighten the procurement role (Harmonizing Donor Practices for Effective Aid Delivery, 1999).

Mullins (2003) affirms that the milestone accomplished in the procurement planning in catalysing efficient service delivery in the public agencies is unquestionable in the world. According to Mullins, sophisticated planning and good management ensures that the firms are in a state to increase the shareholders wealth by applying procurement practices. Similarly, a good procurement system must have a professional staff with the techniques and the skills of handling procurement process in the organization (OECD-DAC, 2006).

Poor service delivery can be justified by ineffective procurement systems within an organization. Schooner and Whiteman (2000) advance the argument that procurement policies contributions facilitate effective and efficient delivery of service in private sector organizations in both third world and economies. In Kenya, studies have been carried out to point towards the failure of inferior procurement practices. Thai (2009) stated that, in organizations, a sound public procurement must have suitable procurement legislations. These suitable procurement regulations are linked with efficiency and effectiveness in the procurement activities. These regulations are deemed to be clear, comprehensive and consistent in private institutions.

2.7 Empirical Literature Review

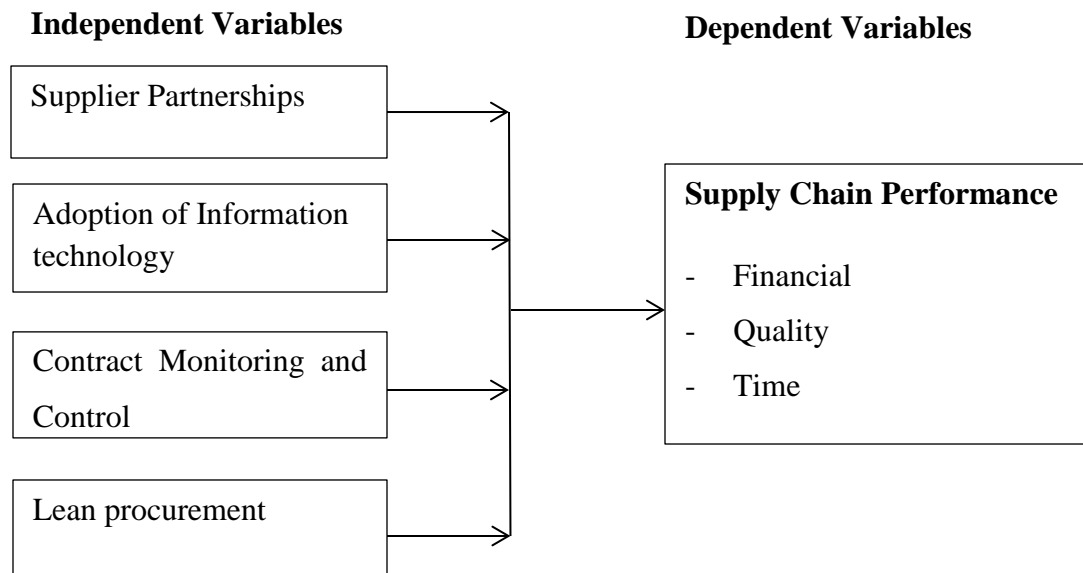
To finalise on the analysis, all the indicants have to be factored and have to function in sync. Quality indicators are considered to the simplest to adopt and implement. Basically they inform you the level to which you are meting a common logistic indicator in accuracy. Time indicator shows the period it takes to accomplish a task. This indicator informs you how to save time in some practices that will improve overall organizational performance. Financials help the managers to identify cost minimization drivers in the procurement field and work towards efficient management. Productivity on the other hand deals with optimal utilization of available capacities. For instance, adopting e-procurement, supplier partnerships among others are likely to reduce cost and contribute effectively towards organizational performance.

The concept of measurement outlined in the Supply Chain Operations Reference Model (SCOR) suggested by the American Supply Chain Council Association also is highly considered in procurement processes (Shepherd & Günter 2012). The model is designed to manage business procedures for multiple firms and not a single firm. In the model indicators relate to the following aspects: plan, source, make/manufacture, deliver and returns. It also assumes 5 performance attributes: reliability, responsiveness, flexibility, cost and Efficiency to manage assets (Ganga & Carpinetti, 2011). Making a choice of indicator can be discouraging and it can be risky to focus on a single strategy. For instance, concentrating on cost alone can improve a single point but have an effect on the whole supply chain performance as well as the quality of goods and services. In view of

this, Frazelle (2001) model comprising of time, productivity, quality and financial is adopted.

Conceptual framework refers to the conventional presentation of the independent variable of a study, in relation the dependent variables (Peters *et al.*, 2000). This research seeks to establish how procurement practices and supply chain performance are related. The independent variables are supplier partnerships, Adoption of information technology, Contract monitoring and control and lean procurement. The schematic diagram on the below shows the interrelationship among the key variables.

Figure 2.1: Conceptual Model



Source: Author (2016)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that was employed to conduct the research. The chapter addresses the following specific areas; the research design, the target population, sample design, data collection and data analysis.

3.2 Research Design

The research design for this study was descriptive approach and cross sectional study. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables (Bryman & Bell, 2003). The research is aimed at getting detailed information with regard to procurement practices and supply chain performance focusing on a Telecommunications firms in Kenya. A survey was used to collect information. Ramar and Kumar (2008) state that cross sectionals studies have been mostly used for effects of relationship studies.

3.3 Population

Target population in statistics is denoted by the actual number of people, items or objects about which information is required (Mugenda & Mugenda, 2004). The target population in this research was Telecommunication firms in Kenya (Appendix 2). Mugenda and Mugenda (2003) indicate that a range of 10% or 20% sample size will be sufficient for a study. Out of the 40 listed firms by TESPOK the study concentrated on 20% of the population firms that were both fiber carriers and internet service providers.

3.4 Data Collection

Primary data used in the study was collected through the administration of a questionnaire to each respondent. The respondents comprised Supply chain managers, Procurement managers or the equivalent. The questionnaire was administered through emails and dropping and picking later method to the respondents (1 week). The questionnaire was self-designed and based on the research objectives. The questionnaire

was partitioned into four sections. Section A had detail information on demographic variables such as sex, job position, level of education etc. of the participants. Section B covered the extent to which procurement practices have been employed, Section C was to examine the impact of the procurement practices on supply chain performance. The items were anchored on a 5-point Likert response format assuming response with range from very great extent (5) to very low extent (1).

3.5 Data Analysis

Section A and B of the questionnaire was analysed using Descriptive statistics. Section C was analysed using Regression analysis. The findings were presented in tables and histograms. The following regression equation was used to represent procurement practices and supply chain performance:

$$Y=a+b_1x_1+b_2x_2+b_3x_3+b_4x_4 +e.$$

Where: Y= supply chain performance; a= the Y intercept when x is zero; b₁, b₂, b₃, b₄ are coefficients of the variables; x₁=Supplier partnerships; x₂= adoption of information technology; x₃= Contract monitoring and control; x₄= lean procurement; and e= error term.

Table 3.1: Summary of Data Collection and Data Analysis

Objective	Data Collection	Data Analysis
General information (Demographic)	Section A of the questionnaire	Descriptive statistics
Extent to which telecommunication firms have adopted procurement practices	Section B of the questionnaire	Descriptive statistics
The relationship between procurement practices and supply chain performance	Section C of the questionnaire	Regression analysis

Source: Author (2016)

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter tackles data analysis, results and discussions. The study sought to establish procurement practices and supply chain performance of telecommunication firms in Kenya. This was guided by the following objectives; to establish the extent to which procurement practices are adopted by Telecommunication firms in Kenya and to determine the relationship between procurement practices and supply chain performance in Telecommunication firms in Kenya. Descriptive statistics and inferential statistics were performed based on the study variables.

4.2 Response Rate

The study population was 40 respondents. Purposive sampling was undertaken to choose only organization that were both fiber carriers and internet service providers. This formed a sample of 8 respondents. .

All the respondents sampled to participate in the study responded to the questionnaire. This formed a response rate of 100%, which was adequate to analyze and conclude on procurement practices and supply chain performance of telecommunication firms in Kenya.

4.3 Background Information

Background data sought to describe respondent's characteristics such as department, education qualification, and length of continuous service with the firm as well as departmental size.

4.3.1 Department of Operation

The study sought to know the respondents department that was in charge of procuring of the firm's goods and services.

Table 4.1: Department of Operation

Department	Frequency	Percent
Procurement & Supply Chain	5	62.5
Technical	1	12.5
Finance	1	12.5
Service Delivery	1	12.5
Total	8	100.0

Departmental description of the respondents indicated that 62.5% were from procurement and supply chain department. Equal proportions of 12.5% were from technical, finance and service delivery departments. Since the majority was from procurement and supply chain management, the information provided was key and relevant as the topic revolves around supply chain and procurement practices.

4.3.2 Academic Qualification

The study sought to know education level of respondents.

Table 4.2: Academic Qualification

Education	Frequency	Percent
Post graduate	6	75.0
University	2	25.0
Total	8	100.0

From the findings, majority 75% said they had postgraduate level as their highest level of education while 25% held that university level was their highest level of education. This implies that all respondents were knowledgeable enough in understanding the study objectives thus giving significant and relevant information.

4.3.2 Length of Continuous Service with the Firm

The study sought to know the length of service by respondents in the firms.

Table 4.3: Length of Continuous Service with the Firm

Period	Frequency	Percent
Below 5 years	3	37.5
5-10 Years	5	62.5
Total	8	100.0

The findings show that 62.5% of the respondents have been in service in their current firms for a period of 5-10 years. The minority were 37.5% who have served for less than 5 years in their current institutions. This implies that, respondents were aware of procurement practices and supply chain performance in their institutions. Therefore, information provided was in accordance with their experience and policies of the respective institutions.

4.3.2 Departmental Size

The research aimed to establish the respondent's departmental size.

Table 4. 4: Number of Employees in the Department

	Frequency	Percent
10-20	2	25.0
5-10	2	25.0
Above 20	4	50.0
Total	8	100.0

Departmental size was determined by the number of employees working in the department. The analysis indicates that, half of the respondents had more than 20 employees. A quarter had 10-20 employees and 5-10 years. Therefore, these organizations can be categorized as big and medium organizations. Further, operations are carried out relatively efficient.

4.4 Procurement Practices

Respondents were required to agree if they have adopted procurement practices within their respective organizations.

4.4.1 Adoption of Procurement Practices

All the respondents agreed that they have adopted procurement practices. Further, the respondents were required to justify their response towards adoption of procurement prices. Mixture of reaction was expressed as they held that; they have adopted such practices to streamline and make procurement process more efficient; enhance centralized procurement system hence reduce costs. Others held that they have procurement policy handled by administration function and others have standard processes as per Kenya Institute of Supplies Management (KISM), public procurement act, Vodafone and Safaricom best practices.

4.4.2 Extent to which Procurement Practices Are Adopted

Procurement practices were presented to the respondents for rating on how they are implemented in their organizations. Findings are shown in table 4.5.

Table 4.5: Extent to which Procurement Practices Are Adopted

	N	Mean	Std. Deviation
Contract monitoring and Control	8	3.87	.83
Adoption of information technology i.e. e-Procurement	8	3.75	1.38
Supplier partnerships	8	3.75	.46
Lean procurement	8	3.37	1.30

The procurement practices are concerned with acquisition of goods and services from reliable sources to ensure the organization meets their strategic goals in an efficient, effective and economic way. Chartered Institute of Procurement and Supply together with the Institute for Public Procurement, on procurement practice, hold that, firms have to devise comprehensive policy procedures and directions that highly defines the authority, responsibility and lay down the guidelines for the procurement professionals and associated parties to follow in executing their roles.

From the study findings, contract monitoring and control was rated highly ($M=3.87$; $SD=0.85$), followed by adoption of information technology ($M= 3.75$; $SD = 1.39$). Supplier partnerships were rated similar to adoption of information technology ($M = 3.75$; $SD = 0.46$), while lean procurement was the least rated practice ($M = 3.37$; $SD=1.30$).

Other kinds of models suggested by the respondents were manual model and agile system due to nature of the business.

4.5 Procurement Practices and Supply Chain Performance

Respondents were required to indicate if procurement practices influence supply chain performance of telecommunications firms in Kenya.

4.5.1 Procurement Practice Influence Supply Chain Performance

From the findings all the respondents indicated that procurement practices influenced supply chain performance in their companies. An indication that the telecommunication firms have realized a need to improve their supply chain performance and thus a move to adopt procurement practices aimed at making company purchasing decisions.

4.5.2 Extent to which Procurement Practice Influence Supply Chain Performance

Respondents were required to state the extent in which procurement practice influenced supply chain.

Table 4.6: Extent to which Procurement Practice Influence Supply Chain Performance

Rating	Frequency	Percent
Large extent	6	75.0
Moderate extent	2	25.0
Total	8	100.0

Further, based on procurement practice influence on supply chain performance, respondents were asked to rate the extent to which these practices; supplier partnerships, adoption of information technology, contract monitoring and control and lean

procurement influence supply chain performance in telecommunications companies. The statistics indicated that 75% rated the practices to large extent while 25% rated them to moderate extent. Therefore, based on the highest response, it is indicative that procurement practices affect supply chain performance and that the Telecommunication firms have employed one of the practices if not all.

4.6 Rating Procurement Practices in Relation to Supply Chain Performance

The procurement practices in this study included supplier partnerships, adoption of information technology, contract monitoring and control, and lean procurement. Several assertions for each practice were constructed and five point Likert scale used to gauge the rating as per each assertion.

4.6.1 Supplier Partnerships and Their Influence on Supply Chain Performance

Respondents were required to express how Supplier Partnerships influenced Supply Chain Performance.

Table 4.7: Supplier Partnerships and Their Influence on Supply Chain Performance

Supplier Partnerships	N	Mean	Std. Deviation
Promote mutual planning and problem solving efforts	8	4.25	1.38
Reduction in lead time	8	4.12	1.45
Aid organization to adopt cost effective design choices	8	4.00	1.30
Improves product quality	8	3.37	1.59

A well strategized supplier partnership includes purchase of products and services from suppliers and impacting the suppliers system and operational capabilities, adding value and improving the supply chain performance (Monczka *et al.*, 1998; Sufian, 2010). There are a lot of uncertainties in supply markets that can only be controlled when companies change their outlook from procurement to supply management.

In this study, statements aligned to supplier partnerships were rated to a great extent as shown by the means and standard deviations. As indicated in 4.10, respondents held that supplier partnerships Promote mutual planning and problem solving efforts ($M = 4.25$, $SD = 1.39$). Further, the partnerships contribute to reduction in lead time ($M = 4.12$, $SD =$

1.46) and aid organization to adopt cost effective design choices ($M = 4.0, SD = 1.31$). The findings also indicate that with a mean of 3.37 and standard deviation of 1.59, the partnerships do not improve product quality to a large extent.

These findings are in consistence with Balsmeier *et al.* (2012) who holds that the practice of suppliers participating early in the product-design process offers more cost effective design choices, help best component selection, design assessment and alignment of organizations to work closely. The benefit of the practice is elimination of wasteful time and effort which promotes cooperation, openness of communication and a problem-sharing attitude.

4.6.2 Adoption of Information Technology and its Influence on Supply Chain Performance

E-Procurement aims to bring aboard effective decision making owing to the fact that tendering is competitive and transparent to the company. E-Procurement aims to bring aboard effective decision making owing to the fact that tendering is competitive and transparent to the company. In the context of ethics as procurement practice, transparency refers to the stakeholder’s ability to evaluate the terms and procedures, in which vendors are defined, retributed and managed Sengbeh (2015). E-procurement assertions were rated against 5-pont Likert scale and presented in table 4.11.

Table 4. 8: Information Technology and its Influence on Supply Chain Performance

Adoption of Information technology e -procurement	N	Mean	Std. Deviation
Effectiveness and efficiency has been achieved through e-Procurement	8	4.37	.74
It facilitates integration of internal operations	8	4.12	1.35
The company delivers services timely	8	3.87	1.35
Reduction in cost of operations	8	3.87	1.55

From the findings majority of the respondents agreed to a very large extent that e procurement has facilitated effectiveness and efficiency ($M= 4.37, SD = 0.74$). They also agreed that information technology also facilitates integration of internal operations ($M=$

4.12, $SD = 1.36$). Moderately rated assertions were that the company delivers services timely ($M = 3.87$, $SD = 1.36$) and reduction in cost of operations ($M=3.87$, $SD= 1.55$).

The findings indicate that, e-procurement is characterized by efficiency and effectiveness in handling organization records and process. According to Williams (2005) ICT enables organizations to decentralize operational procurement processes and centralize strategic ones due to higher transparency. Decentralization injects a lot of time saving in the process, materials normally imported can be sourced locally reducing the time taken to connect customers. Further, ICT serves as the connection between various stages of the system, allowing them to coordinate and maximize total supply profitability. Managers have realized that the Information communication technology can enhance procurement decisions making by providing real-time information and enabling collaboration between trading partners.

4.6.3 Contract Monitoring and Control and its Influence on Supply Chain

Performance

Respondents were required to rate how Contract monitoring and control influenced Supply Chain Performance.

Table 4.9: Contract Monitoring and Control and its Influence on Supply Chain Performance

Contract Monitoring and Control	N	Mean	Std. Deviation
Ensures organization compliance with terms and conditions, paperwork requirements, and administrative aspects of the performance.	8	4.25	1.39
Ensures the organization is compliant with specifications, terms of reference, statement of work (quality assurance and control)	8	4.12	1.35
Ensures cost control	8	4.00	1.41

From the findings, majority of the respondents agreed to a large extent that contract monitoring and control ensured organizations complied with terms and conditions, paperwork requirements and administrative aspects of performance ($M= 4.25$, $SD=1.39$).

In addition it ensures the organization is compliant with specifications, terms of reference, statement of work ($M= 4.12$, $SD = 1.36$) as well as ensures cost control ($M = 4.0$, $SD = 1.41$).

Brown and Hyer (2010), describe monitoring as the tracking aimed at identifying variances from the original plan using simple checklist to sophisticated dashboard style approaches. Further, monitoring triggers off an effort to search for solutions to the identified threats to the project success. Thus of all the procurement practices, contract monitoring and control was the highly rated practice. In Kenya, Telecommunication firms enter into a lot of agreements from set up, acquisition of licenses and service level agreements with suppliers and their clients.

4.6.4 Lean Procurement and Supply Chain Performance

Respondents were required to rate how Lean procurement influenced Supply Chain performance.

Table 4.10: Lean Procurement and Supply Chain Performance

Lean Procurement	N	Mean	Std. Deviation
Reduces cost	8	4.25	1.38
Improves time to deliver	8	4.12	1.35
Maximizes quality level of purchased quantity	8	3.75	1.48

Lean procurement practice refers to lean principles, practices and techniques that improve customer satisfaction through elimination of waste and system's improved continuity. Lean procurement practice aims to achieve minimized cost, high quality products or services and improved systems and processes efficiency with less effort (Agus *et al.*, 2012).

From the findings majority of the respondents agree to a very large extent that Lean procurement leads to reduced costs ($M = 4.25$, $SD = 1.39$) and improves delivery time ($M = 4.12$, $SD = 1.36$). There was also moderate agreement by the respondents that lean

procurement maximizes quality level of purchased quantity ($M = 3.75$, $SD = 1.48$). The findings of this study are in line with the literature review. According to Ugochukwu *et al.* (2012) the major benefits of lean procurement practice in the supply chain, includes reduced cost, improved quality, faster delivery and flexibility.

4.7 Suggestions on Procurement Practices and Supply Chain Performance

In the analysis, respondents were asked to give their suggestions towards procurement practices and supply chain performance in telecommunication firms in Kenya. These suggestions included: adopt more lean procurement practices because of cost reduction and better time delivery benefits; improve on supplier partnerships as it leads to more discounts and strategic operations; the practices have direct bearing on product price, it would be imperative on procurement practices in order to benefit end users. In addition, others suggested more focus now given to sustainable buying as per sustainable development goals (SDGS). Others expressed that there are still loop holes in telecommunication industry where people are not informed on expectation and therefore things like prices, scope of work and quality are not vetted well. Thus, companies end up paying so much for something which is not equivalent.

Further the researcher need to get what else may be of relevance to the study and the firm as far as procurement practice is concerned. Respondents added that; properly align and staff the supply chain organizations to increase effectiveness in procurement practices. To find out effect of agile practices on cost reduction as well as centralized procurement systems versus decentralized procurement system in regard to benefits.

4.8 Regression Analysis

Regression analysis in this study sought to establish the influence of procurement practices on supply chain performance. Supply chain performance was the dependent variable while independent variables included; supplier partnership, information technology, contract monitoring and control and lean procurement. Data for regression was obtained from the questionnaire on the rating questions. An average was done for the assertions to obtain a variable representative data. The results have been presented in model summary, ANOVA test and summary of coefficients.

Table 4.11: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928 ^a	.861	.859	.467348

a. Predictors: (Constant), Lean Procurement., Supplier partnership, Contract monitoring and control, Information Technology

R squared is coefficient of determination which indicates the variation in the dependent variable due to changes in the independent variable. From table 4.14 the value of R squared was 0.861, an indication that there was variation of 85.9% on dependent variable. Thus, there is a relative significant effect between dependent and independent variables. Adjusted R squared which refers to the percentage of goodness fit in the regression model was 0.859. R is the correlation coefficient which shows the relationship between the study variables. From the findings shown in the table 4.14, there was a Strong positive relationship between the study variables shown by the coefficient of 0.928. This clearly indicated that supplier partnerships, adoption of information technology, contract monitoring and control and lean procurement improve supply chain performance.

Table 4.12: Summary of Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	359.884	1	119.961	549.237	.000 ^b
	Residual	58.098	7	.218		
	Total	417.982	8			

a. Dependent Variable: Supply Chain Performance

b. Predictors: (Constant), Lean Procurement., Supplier partnership, Contract monitoring and control, Information Technology

From the Anova analysis results on table 4.15, the Total variance (417.982) was the difference into the variance which can be explained by the independent variables (Model) and the variance which was not explained by the independent variables (Error). The variation between independent and dependent variable was significant *p value is <0.001*. The regression analysis results in the ANOVA output table indicates that the overall

regression model predicts the supply chain performance significantly at 95% confidence level based on lean procurement, supplier partnership, contract monitoring and control, information technology. This implies that, statistically, the model applied can significantly predict the changes in the Supply chain performance.

Table 4.13: Summary of Coefficients of Regression Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.187	.134		1.396	.042
	Supplier partnership	.626	.047	-.124	-4.843	.000
	Information Technology	.957	.050	.408	9.161	.000
	Contract monitoring and control	1.044	.854	2.963	1.222	.039
	Lean Procurement	.711	.050	.602	14.211	.000

a. Dependent Variable: Supply Chain Performance

The coefficient of regression in this study indicates that the model had a constant of 0.187 statistically significant at 95% confidence level. Supplier partnership had a coefficient of 0.626 with p value <0.001 denoting a significant contribution to Supply chain performance. This means that Supplier partnership significantly explains 62.6% of the changes in supply chain performance; hence the conclusion that supplier partnership has significant effect on supply chain performance. This therefore justifies rejecting the null hypothesis.

Information Technology had a statistically significant effect on supply chain performance as indicated by p value <0.001. As presented in table 4.16, the variable had a coefficient of 0.95, significant at 95% confidence level.

The findings indicate that contract monitoring and control had a coefficient of 1.044 with p value 0.39>0.05 denoting an overwhelming contribution to Supply chain performance. This means that successful implementation of contract monitoring and control, would result to 104% on supply chain performance.

A further review of p value indicated that lean procurement had a coefficient of 0.711 statistically significant at 95% confidence level. This implies that successful implementation of lean procurement, holding other factors constant, would result to 71.1% on supply chain performance.

Therefore, the regression analysis implies that all the variables are key in determining the supply chain performance. The positive coefficients denote positive relations hence, a positive change in either of the variables leads to a positive shift in supply chain performance.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Chapter five presents summary of the findings based on the data analysis, draws conclusion based on responses given and recommendations. Further, limitation of the study and suggestion for further research is discussed in this chapter.

5.2 Summary of the Findings

All the respondents agreed that they have adopted procurement practices in the institutions. The rationale behind the adoption was to streamline and make procurement process more efficient; enhance centralized procurement system hence reduce costs. Rating of the procurement practices indicated that; contract monitoring and control was the most rated followed by adoption of information technology i.e. e-Procurement then supplier partnerships and lean procurement.

On supplier partnerships, it was established that, supplier partnerships promote mutual planning and problem solving efforts, contribute to reduction in lead time and aid organization to adopt cost effective design choices. Use of information technology on the other hand facilitates effectiveness and efficiency through e-Procurement, facilitates integration of internal operations, helps in timely delivery of services and leads to cost reduction. Similarly, contract monitoring and control ensures organization compliance with terms and conditions, paperwork requirements, and administrative aspects of the performance. It further ensures the organization is compliant with specifications, terms of reference, statement of work as well as cost control.

Lean procurement was linked to reduced cost, improved time delivery and maximization of quality level of purchased quantity. The regression analysis found out that all the variables tested; supplier partnerships, information technology, contract monitoring and control and lean procurement were statistically significant at 95% confidence. In addition all had positive coefficients with contract monitoring and control having the biggest coefficient of 1.044.

5.3 Conclusion

The study concluded that, all firms which are direct Fiber carriers and Internet Service Providers have adopted procurement practices. Thus they can explain the challenges, and benefits achieved by utilizing such practices. The study also concludes that, of the procurement practices discussed in this study notably; supplier partnerships, Information technology, contract monitoring and control and lean procurement,; contract monitoring and control contributes highly to supply chain performance.

The regression analysis in this study found that all the independent variables were significant at 95% confidence level. Further, the variables had positive coefficients denoting direct relationship with the dependent variable, supply chain performance. Therefore, this study adds to the body of knowledge that supplier partnerships, information technology, contract monitoring and control and lean procurement positively affect supply chain performance of telecommunication firms in Kenya.

5.4 Recommendations

Contract monitoring and control was the best rated procurement benefited. This is because they ensure organization compliance with terms and conditions, paperwork requirements, and administrative aspects of the performance; ensures the organization is compliant with specifications, terms of reference, statement of work as well as cost control. Therefore, this study recommends continued use of such practice to gain fully its benefits; the practice should also be coupled with ethics and agility practices.

All the procurement practices were found to have positive coefficients signifying direct relationship with supply chain performance. Thus, the firms should ensure full utilization of such practices as they lead to increased supply chain performance. From the respondents' suggestions, it was established even with procurement practices, loop holes in telecommunication were observed in the industry where people are not informed on expectation and therefore things like prices, scope of work and quality are not vetted well. Therefore, the study recommends ensuring monitoring and control are intensified in these organizations.

5.5 Limitations of the Study

This study was limited in the sense that TESPOK enlisted 40 institutions as telecommunication firms while in reality, they are only 8 firms. This limited the study sample to only 8 firms.

5.6 Suggestions for Further Research

Upon successful completion of this report, the study suggests that similar study can be done in other sectors including airlines, hospitals and motor vehicle firms. Further, challenges facing adoption and implementation of procurement practices should be done to identify the factors limiting supply chain performance in relation to procurement practices. Research can also be undertaken to establish the benefits of decentralized and centralized procurement systems. In addition the relationship between procurement practices and green supply chain management can be undertaken since the telecommunication materials involve fiber cables and ducts that are trenched in the ground.

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APPENDICES

Appendix I: Questionnaire

Introduction

This questionnaire has been designed for the sole purpose of collecting data on the impact of procurement practices and supply chain performance of telecommunication firms in Kenya. The data collected will be treated with a very high degree of confidentiality and it is meant for academic purpose only.

Please give answers in the spaces provided that matches your response to the questions.

SECTION A: GENERAL INFORMATION

1. Name of the Telecom firm
2. Which department are you in? _____
3. What is your highest level of education qualification? (Tick as applicable)

a) Post graduate level	()	b) University	()
c) Tertiary College	()	d) Secondary	()
4. Length of continuous service with the firm?
5. How many employees are there in your department?

a) Less than 5	()	b) 10 – 20	()
c) 5 – 10	()	d) Above 20	()

SECTION B: TO WHAT EXTENT ARE PROCUREMENT PRACTICES IMPLEMENTED IN TELECOMMUNICATION FIRMS IN KENYA?

6. Has your organization adopted procurement practices?

Yes ()

No ()

Give reasons for your answer

.....

7. Indicate the extent to which the company adopts the following procurement practices. Use 1- Very low extent, 2-Low extent, 3-Moderate extent, 4- Great extent, 5- Very great extent

Procurement Practices	1	2	3	4	5
Supplier partnerships					
Adoption of information technology i.e. eProcurement					
Contract monitoring and Control					
Lean procurement					

Any other, kindly specify.....

SECTION C: RELATIONSHIP BETWEEN PROCUREMENT PRACTICES AND SUPPLY CHAIN PERFORMANCE

1. Does procurement practice influence supply chain performance in telecommunication firms in Kenya?
 a) Yes () b) No ()

2. If Yes to Question 1 above, kindly indicate to what extent
 a) Large extent () b) Moderate extent ()
 c) Small extent () d) No extent at all ()

3. Kindly indicate the extent to which you agree with the following statements concerning influence of procurement practices on supply chain performance based on a 5-point scale by using a tick (√) or X to mark the applicable box where (5) = Very great extent (4) = Great extent (3) = Moderate extent (2) = Small extent (1) = Very small extent.

Supplier partnerships	1	2	3	4	5
Reduction in lead time					
Improves product quality					
Aid organization to adopt cost effective design choices					
Promote mutual planning and problem solving efforts					
Adoption of Information technology(eProcurement)					
It facilitates integration of internal operations					
Effectiveness and efficiency has been achieved through eProcurement					
Reduction in cost of operations					
The company delivers services timely					
Contract monitoring and control					

Ensures cost control					
Ensures the organization is compliant with specifications, terms of reference, statement of work (quality assurance and control)					
Ensures organization compliance with terms and conditions, paperwork requirements, and administrative aspects of the performance.					
Lean procurement					
Reduces cost					
Improves time to deliver					
Maximizes quality level of purchased quantity					

4 a. Please give suggestions/recommendations towards procurement practices and supply chain performance in telecommunication firms in Kenya.

b. In your opinion, what else may be of relevance to the study and the firm as far as procurement practice is concerned?

Appendix II: List of Telecommunication Firms in Kenya

LIST OF TELECOMMUNICATION FIRMS	
1	Access Kenya Group
2	Airtel Kenya Ltd
3	Angani LTD
4	Bandwidth & Cloud Services LTD
5	Orange Kenya
6	Call Key E.A Ltd
7	CMC Networks
8	Compfix Data Ltd
9	CRAFT SILICON
10	GeoNet Communications Ltd
11	iWAY Africa Kenya LTD
12	Jambo Pay
13	Jamii Telecoms LTD
14	KENET
15	KENIC
16	Kenya Web
17	Liquid Telecom LTD
18	MTN Business Kenya
19	MyISP LTD
20	Node Africa
21	PCH
22	Safaricom Limited
23	Seacom Ltd
24	Telkom Kenya
25	Wananchi Group Kenya Ltd
26	Xtranet Tellecommunication
27	Adcare
28	Dr.Wireless
29	Eaton Towers
30	Fon
31	GIS
32	Internet Solutions LTD
33	Kooba Kenya Ltd
34	Kenya Revenue Authority
35	Orange Kenya
36	PlessY (k) Ltd.
37	SPORT PESA
38	Swift Global Kenya
39	TESPOK
40	VERISIGN

Source: <https://www.tespok.co.ke>, viewed, September 2016.