

**PROCUREMENT PERFORMANCE AND OPERATIONAL EFFICIENCY IN
TELECOMMUNICATION INDUSTRY IN KENYA**

**BY:
NASRA BILLOW HUSSEIN
D61/60854/2013**

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

NOVEMBER 2014

DECLARATION

STUDENT'S DECLARATION

This project is my original work and has not been presented for award of a degree in any other University.

Signature:

Date:

NASRA BILLOW HUSSEIN

D61/60854/2013

This research project has been submitted for examination with my approval as the University of Nairobi Supervisor

Sign.....

Date.....

DR. J. M. NJIHIA

Lecture, University of Nairobi

DEDICATION

This research project is dedicated to my family for accepting and understanding my absences while undertaking my research project.

For this I say thank you all and God bless.

ACKNOWLEDGEMENT

I wish to thank the Almighty Allah for giving me wisdom to conduct this study. I also appreciate my supervisors for their guidance in conducting the research and the management of Nairobi University for their understanding and support.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	viii
LIST OF TABLES	ix
ABSTRACT	x
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Procurement Performance.....	3
1.1.2 Operational Efficiency	4
1.1.3 Telecommunications industry in Kenya	5
1.2 Statement of the Problem.....	6
1.3 Objectives of the Study.....	8
1.3.1 Specific Objectives	9
1.4 Value of the Study	9
CHAPTER TWO	11
LITERATURE REVIEW	11
2.1 Introduction.....	11
2.2 Procurement in supply chain function	11
2.3 Procurement Performance.....	12
2.4 Operational Efficiency	13
2.5 Operational Efficiency and Procurement Performance	14
2.6 Theoretical Orientation	17

2.7 Empirical Literature Review.....	18
2.9 Summary of literature review and research gap	20
2.10 Conceptual Framework.....	21
CHAPTER THREE	23
RESEARCH METHODOLOGY	23
3.1 Introduction.....	23
3.2 Research Design.....	23
3.3 Target Population.....	24
3.4 Sample Design	24
3.5 Data Collection	24
3.6 Reliability and validity test	25
3.7 Data Analysis	26
CHAPTER FOUR.....	28
DATA ANALYSIS PRESENTATION AND INTERPRETITION.....	28
4.1 Introduction.....	28
4.1.1 Response Rate	28
4.2 Company Demographics.....	29
4.2.1 Years in Operation	29
4.2.2 Turnover.....	30
4.2.3 Number of Employees	31
4.2.4 Business Type	31
4.3 Performance Functions	32
4.3.1 Performance functions on Procurement Performance	32
4.3.2 Rate of Company’s Procurement Performance.....	33
4.4 Operation Efficiency (Corporate)	34
4.4.1 Operational Efficiency in Telecommunication Industry.....	34

4.5 Regression Analysis of the Findings.....	34
4.5.1 Non-parametric correlation.....	38
4.6 Discussion.....	40
CHAPTER FIVE	42
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	42
5.1 Introduction.....	42
5.2 Summary of the Findings.....	42
5.3 Conclusions.....	43
5.4 Recommendation.....	44
5.5 limitations of the study.....	45
5.6 Suggestions for Further Research	46
References	47
APPENDICES	i
Appendix 1: Questionnaire	i
Appendix II: A List of Telecommunication Industries in Kenya	iv

LIST OF FIGURES

Figure 4.1 Years in operation.....	29
Figure 4.2 Turnover	30
Figure 4.3 Business type.....	31

LIST OF TABLES

Table 4.1 Response Rate.....	29
Table 4.2 Number of employees.....	31
Table 4.3 Performance functions on Procurement Performance	33
Table 4.4 Rate of company's procurement performance.....	33
Table 4.5 Operational Efficiency in Telecommunication Industry	34
Table 4.6 Model Summary	35
Table 4.7 ANOVA	36
Table 4.8 Coefficients Results	37
Table 4.9 Correlations.....	39

ABSTRACT

The main objective of this study was to establish the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya. The study aimed to achieve the following specific objectives: to determine the procurement performance, the operational efficiency and the relationship between operations efficiency and procurement performance in the telecommunication industry in Kenya. The study employed descriptive cross sectional survey design. Members of tender, procurement and evaluation committees as well as the three level of management were purposively sampled from all the players in the telecommunication industry in Kenya. Descriptive statistics and inferential statistics were used to analyse the data. The study found that flexibility ensured procurement performance to a great extent. Cost ensured procurement performance to a great extent. Quality ensured procurement performance to a great extent. Time ensured procurement performance to a great extent. The study concludes that that taking all the independent variables at zero, a unit increase in maximized resource utilization will lead to an increase in the scores of the procurement performance. The study recommends that telecommunication companies should introduce strict internal controls suitable for streamlining efficiency in its procurement function.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The procurement function has undergone significant changes in many countries, moving from a reactive activity to a strategic one, in order to keep pace with the expansion of procurement activities and enhance procurement performance (Macbeth & Ferguson, 1994; Dimitriades & Maroudas, 2007). This has led to reforms aimed at establishing a strong and well-functioning procurement system that is governed by a clear legal framework for transparency and effectiveness (Hunja, 2003). Procurement excellence is increasingly becoming an important factor in delivering efficient operations within successful companies. During a downturn, when companies must consider every avenue for cutting costs in order to simply survive, the procurement department plays an increasingly important role in achieving this strategic goal (Schiele & McCue, 2006).

According to Kiragu (2012), procurements should be based on value for money (defined as the optimum combination of whole life costs and fulfillment of customer's requirements) rather than initial purchase price. Effective and efficient procurement systems and collaborative relationships are essential to the achievement of organizational goals, cost reduction and supply chain performance. This is achieved by identifying key saving potential areas and driving innovative sourcing models which can enable operators to reinvent their cost structures. According to Thai (2005), every organization that purchases goods or services must have effective standard procurement procedures, the

methods they use to acquire those things required for an organization to provide goods/services to its clients. These procedures should cover all aspects of the procurement cycle, including the selection of the supplier, contract negotiations, order placement and payment and should ensure appropriate service delivery.

Under the tide of convergence in telecommunications industry, almost every telecom company is considering transformation strategies. Besides, increasing demands for communication services have stimulated increasing deployment of ICT infrastructure in emerging market. As the situation becomes more urgent, telecom operators are required to invest more than ever to purchase large quantities of equipment. Since procurement costs account for more than 50 percent of overall costs of telecom companies, how to effectively reduce these costs is very important for their transformation strategies, and especially critical for continual development of telecom companies (Thai, 2005). With the increasing competition in the telecommunication industry, management does not have direct control over the income streams of the company and thus the need to focus on the management of the institutions' expenditures (Kiragu, 2012). Given the contractual nature of personnel expenditures, management is left with only the procurement related expenditures and thus the need to study the effect of procurement performance on the operational efficiency.

1.1.1 Procurement Performance

Procurement performance is a measure of identifying the extent to which the procurement function is able to reach the objectives and goals with minimum costs (Van Weele, 2002). Van Weele (2002) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Procurement effectiveness as defined by Van Weele (2002) is the extent to which the previously stated goals and objectives are being met. It refers to the relationship between actual and planned performance of any human activity. Additionally, he explains that procurement efficiency is the relationship between planned and actual resources required to realize the established goals and objectives and their related activities, referring to the planned and actual costs. As a result, supplier performance is the most important procurement performance driver.

Measuring procurement performance is important as the purchasing department plays an ever increasingly important role in the supply chain in an economic downturn (Vonderembse & Tracey, 1999). Vonderembse and Tracey (1999) explain that a reduction in the cost of raw material and services can allow companies to competitively market the price of their finished goods in order to win business. An obvious performance measure of the success of any purchasing department is the amount of money saved by the company (Nyeko, 2004). Procurement department, like all other departments in a company, is an element of the overall organisation, which must contribute to the achievement of the corporate goals (Nyeko, 2004). Thus a clear link between the corporate strategy and procurement strategy is crucial to understand, follow

and implement in each function and action (Vonderembse & Tracey, 1999). Buvik and John (2000) explained that procurement has always been integral to the performance of an organization. However, both Buvik and John (2000) further explained that with increasing unpredictability in the market, cut throat competition and looming recession fears that procurement has become a highly topical area for the senior level management.

1.1.2 Operational Efficiency

Operational efficiency is the capability of an organization to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support. It is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner. In order to attain operational efficiency an organization needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes. The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets.

Operational efficiency looks at an organization's capabilities and performance. It denotes the organization's ability to minimize waste of inputs and maximize resource utilization so as to deliver quality, cheaper products and services to their customers. It is a useful

measure utilized in managing the available resources (Muhittin and Reha, 1990). Though operational efficiency is driven by operational aspects of human resource management, supply chain management, quality control management, technology deployed etc, it is also a function of both customer satisfaction and public perception (Scheraga, 2004)

1.1.3 Telecommunications industry in Kenya

Since the beginning of the liberalization of the telecommunications sector in 1999, Kenya has seen fast Internet growth and even faster mobile phone growth. Encouraged by this development, the government has plans to turn Kenya into East Africa's leader in Information and Communications Technology (ICT). Since 1999, Kenya has experienced radical changes as the liberalization process of the telecommunications sector began. Of vital importance to the process was the establishment of the Communications Authority of Kenya (CAK) in February of that same year through the Kenya Communications Act, 1998. CAK role is to license and regulate telecommunications, radio communication and postal services in Kenya. Since then a visible boost has gripped the industry. Kenya's telecommunications and broadband market has undergone a revolution following the arrival of four fibre-optic international submarine cables, ending its dependency on limited and expensive satellite bandwidth. The country's international bandwidth increased more than fifty-fold between 2009 and 2013. (Media and Telecommunication Landscape in Kenya, 2010).

1.2 Statement of the Problem

For decades procurement performance has been attracting great attention from practitioners, academicians and researchers due to poor performance resulting from non-adherence to proper processes and procedures as noted by Magutu, Njihia & Mose (2013). Historically, most entities in developing countries have been known for their poor performance and corruption, resulting from non-adherence to processes and procedures, poor resource utilization, poor personnel management and training, inadequate payment and benefits. In addition, the procurement departments are faced with the problem of not having enough information about the procurement procedure, its inputs, outputs, resource consumption and results and are therefore unable to determine their efficiency and effectiveness. This problem requires establishment of clear procurement procedures and performance standards. Performance when adopted, provides the decision-makers in the procurement department with unbiased and objective information regarding the performance of the procurement function and how this affects operations in the company (Knudsen, 1999). Further, there is a large body of evidence suggesting that the majority of cost reduction programs fail to meet expectations, often because of poor planning, management and execution (Amaratunga & Baldry, 2002).

In Kenya a lot of state resources are channeled towards procurement of goods and services, with an aim of ensuring that the full cycle is completed efficiently (Kiragu, 2012). However, there reports of dissatisfaction with the whole or part of the process of procurement, which are said to subsequently impede successful implementation of

government projects. Arguably this failure is widely blamed on the inefficient management of the procurement function. In the telecommunications industry in Kenya, the operations are marred with inefficiencies resulting from delays of approval of PO/PR in the systems since the procurement hierarchy is long and users don't long into oracle since they are busy, they require prompting and also delays in creation of item codes by supply chain department which are used to raise purchase requestor by user department. On average, 100 POs are raised in month of which 5 PO will be delayed in approval/code creation thus affecting operational efficiencies resulting to revenue loss of average Usd.1000 per month.

Rameshwar and Chakrabarty (2013) conducted a study to understand how innovative practices in supply chain in combination with TQM help reduce cost, improve customer satisfaction and better share in return profitability, however, the study was on manufacturing companies using experimental approach and not Purchasing practices and procurement performance. In Kenya several studies have been done on various aspect of procurement such as Ntayi (2011) studied Collaborative relationships, procurement practices and supply chain performance in small firms and their finding raise implications for owner/managers as well as policy makers such putting systems in place to support collaborative relationship and improve procurement practices to ensure professionalism in order to improve supply chain performance in terms of timely deliveries, flexibility and customer satisfaction, this study is more general but relevant to the current study on purchasing practices and procurement performance of state corporations in Kenya.

Kakwezi and Nyeko (2010) studied procurement process and performance and concluded that procurement efficiency and procurement effectiveness of the purchasing function are measures of procurement performance. Lloyd, (2004) examined supply chain management practice and its effect on performance at Kasapreko Company limited (KCL) and indicated that SCM practice had significant influence on KCL business performance. Magutu, Njihia and Mose (2013) also did a study and found out the critical success factors and challenges in e-procurement but their study was on large scale manufacturing firms. Thai (2005), studied internal factors affecting procurement processes and established that accountability, ICT adaptation and ethics affect procurement processes in public procurement function in Kenya which is relevant. However the study did not cover the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya.

From these studies it is evident that the relationship between procurement performance and operations efficiency needs to be researched. This study therefore aimed to bridge the gap by seeking answers to the following research question: what was the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya?

1.3 Objectives of the Study

The main objective of this study was to establish the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya

1.3.1 Specific Objectives

The study aimed to achieve the following specific objectives:

- i. To determine the procurement performance in telecommunication industry in Kenya
- ii. To determine the operational efficiency in telecommunication industry in Kenya
- iii. To establish the relationship between operations efficiency and procurement performance in the telecommunication industry in Kenya

1.4 Value of the Study

The study will foster creation of new knowledge and awareness in the area of procurement management in all industry sectors both in the private and public sectors. The study findings may also help policymakers in telecommunication sector by availing them with information that they may use to procurement methods and procedures for better enhanced operational efficiency. The study will provide value addition to the telecommunication industry in Kenya by way of improving performance, gap identification as well as proposals to mitigate the gaps.

The researcher anticipates that the findings and policy 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. Findings and

recommendation of this study will guide the telecommunication industry in policy formulation.

The findings may be of great use to the academia, especially those who may wish to carry out further research on procurement. Findings are anticipated by the researcher to add more knowledge on the existing body of knowledge in the subject area. The study will stimulate further research in the area.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the related literature on the subject under study presented by various researchers, scholars, analysts and authors. The specific areas covered here were the theoretical framework and the empirical literature review.

2.2 Procurement in supply chain function

According to Vonderembse and Tracey (1999) the concept of procurement, the acquisition of goods or services, has been around for thousands of years. While the objectives in procurement have not dramatically changed, the ability to acquire a product or service at lowest possible costs while meeting the buyer's needs in terms of quality, quantity and time, has become increasingly complex. Similarly the fundamentals of the supply chain have been deployed since prehistoric hunter/gatherer times although the objectives have moved well beyond survival and are now congruent in many ways with those of procurement namely to meet customers' needs in terms of quality, quantity and time whilst minimising transport, storage and working capital costs.

Vonderembse and Tracey (1999) noted that both disciplines are key to business success and their similarity in scope is evidenced within organisational structures globally where procurement may report into supply chain or vice versa or they may remain as

independent departments with either a seat at the executive table or reporting typically through to the COO or CFO. Well planned and executed supply chain and procurement functions can contribute significantly to the overall performance of a business. In addition, increasing customer and society expectations are placing more contemporary demands on the supply chain (Amaratunga & Baldry, 2002).

2.3 Procurement Performance

Procurement performance is a measure of identifying the extent to which the procurement function is able to reach the objectives and goals with minimum costs (Van Weele, 2002). Van Weele (2002) noted that there are two main aspects of the procurement performance: effectiveness and efficiency. Procurement effectiveness as defined by Van Weele (2002) is the extent to which the previously stated goals and objectives are being met. It refers to the relationship between actual and planned performance of any human activity. Additionally, he explains that procurement efficiency is the relationship between planned and actual resources required to realize the established goals and objectives and their related activities, referring to the planned and actual costs. As a result, supplier performance is the most important procurement performance driver.

For any organization to change its focus and become more competitive, Amaratunga and Baldry (2002) suggest that procurement performance is a key driver to improving quality of services while its absence or use of inappropriate means can act as a barrier to change and may lead to deterioration of the purchasing function. None the less, most developing countries are facing a problem of rapid changes in procurement requirements. The

changes are impacting pressure on how the procurement function performs its internal and external processes and procedures in order to achieve its objectives. Procurement performance provides a basis for effective control and stewardship of resources and demonstrates the value of the procurement function. Most organizations have no performance measures in place for assessing procurement efficiency and effectiveness. Of the few that did have measures, many were qualitative statements rather than specific targets to achieve (Anvuur & Kumaraswamy, 2006).

2.4 Operational Efficiency

Operational efficiency denotes the organization's ability to minimize waste of inputs and maximize resource utilization so as to deliver quality, cheaper products and services to their customers. It is a useful measure utilized in managing the available resources (Muhittin & Reha, 1990). Though operational efficiency is driven by operational aspects of human resource management, supply chain management, quality control management, technology deployed etc, it is also a function of both customer satisfaction and public perception (Scheraga, 2004). To achieve operational efficiency Scheraga (2004) noted that all data of an organization must be collected, recorded, and analyzed to determine the extent of profitability. Secondly, many organizations do not fully assess all areas of their business; and because success might only be measured by one or two elements/criterion, many early signs of a crisis are missed. Thirdly, both broad and very specific measures of success should be developed and continually monitored over time. Finally, keep in mind, the effect of arbitrary support-department allocations on the measured cost of products

and services can be profound. Operational efficiency is therefore the capability of an enterprise to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support.

In order to attain operational efficiency a company needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes (Muhittin & Reha, 1990). The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets. Operational efficiency is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner.

2.5 Operational Efficiency and Procurement Performance

One of the basic rules of procurement is that in the end, it is important to think in terms of the total cost of ownership. This includes not only the purchase price, but also time and resources that are expended in the pursuit of the ownership. By understanding the steps involved with procurement, it is possible to get a better understanding of the real cost involved with attaining any good or service (Lardenoije et al, 2005). Only when the procurement function is well planned, it is easy to identify areas where it is performing well, and where there is need for improvement. If costs decline, the purchasing function will be praised, while if savings decline, the purchasing function will be queried. It is as if the purchasing function is established to focus on minimizing costs while maximizing efficiency. Financial measures ignore market dynamics and increased complexity in

acquisition of goods and services for public entities (Lardenoije, Van Raaij, & VanWeele, 2005). One of the most consistent problems organizations face in the procure-to-pay process is undetected financial leakage. Companies often fail to realize the efficiencies that can be gained through the automation of key business processes. The development of procurement function and its effects on organization's performance depend on two factors; the monetary value and the cost saving opportunities. Especially when the value and volume of the purchases is high, the opportunities to save money should be utilized.

Procurement has direct and indirect costs that clearly affect the effectiveness. The organizational structure, division of work and operation efficiency is components that modify the effectiveness of procurement function. The procurement processes and procedures have a close relation to other functions on the organization and on their efficiency as well. As an example, improvements in quality issues and on the delivery times reflect to the total costs on the logistics and production side. Reducing the total costs can be perceived as reduced quality of products. Cost efficient procurement doesn't imply that the quality of products would decrease (Javier, Lorenzo & Inked, 2010)

The efficient use of procurement methods is an answer to releasing the organization's capital. Controlling financial assets can be executed by balancing the payment terms between the sales of assets and purchases of debt providing the economically most advantageous solution. Correct controlling of components like investment and property management influences the release of capital when the knowhow of procurement staff is

used properly. This will result in reduction of invested capital and depreciation of products. Using the supplier network as a tool to outsource parts of production or supply chain to supplier will give an opportunity to release capital. This won't change the capital structure of the organization in any way (Beer, 2011). Savings are very often considered as the natural consequence of transforming the acquisition process from one-to-one (say, a bilateral negotiation) to a one-to-many relationship (say, an auction).

Knudsen, (1999) suggested that procurement performance starts from purchasing efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive to attain set performance levels in an entity. For any organization to change its focus and become more competitive Amaratunga and Baldry (2002) suggest that performance is a key driver to improving quality of services while its absence or use of inappropriate means can act as a barrier to change and may lead to deterioration of the purchasing function. Organizations which do not have performance means in their processes, procedures, and plans experience lower performance and higher customer dissatisfaction and employee turnover (Amaratunga & Baldry, 2002). Measuring the performance of the purchasing function yields benefits to organizations such as cost reduction, enhanced profitability, assured supplies, quality improvements and competitive advantage as was noted (Batenburg & Versendaal, 2006).

2.6 Theoretical Orientation

This study will be underpinned in the DuPont model. Evaluating the development impacts of the organization's procurement can be done applying DuPont model. It measures the financial impact of procurement on the organization's finances. The model was originally developed to calculate the return on net assets which is one of the most used parameters for measuring the profitability of the organization. The return on net assets explains how effective the use of capital is (Iloranta, 2008).

With the help of DuPont analysis, the effects of cost savings on the organization's profit and profitability can be determined. The model also highlights the issues that affect the profit margin that need to be considered when developing the procurement function. These issues include things like lack of procurement policies or uncontrolled supplier or price management (Zima, 2007).

DuPont model offers a tool to explain the relation with planned and executed actions to the effects on the organization's profitability. The system will detect the ramification effects of the executed actions. An example of this is looking into the development possibilities with the suppliers and this way reducing the total costs of procurement (Iloranta, 2008). When placing profitability objectives for the organization, DuPont system helps to define the milestones for each function or process. DuPont model proves to be useful when it comes to investing decisions. It helps to compare the available options and evaluates the profitability of the investment venture.

2.7 Empirical Literature Review

It appears that during the past few years purchasing has begun to play an ever more important role in the strategy of the firm (Ellram, 1994; Carter and Narasimhan, 1996). In order to survive, managers have begun to rethink their competitive priorities and their value chain. Increasing numbers of organizations have recognized that effective purchasing holds the potential to transform their competitive performance for the better. It is generally agreed that purchasing has evolved from a clerical buying function into a strategic business function that contributes to the competitive position of companies (Ellram, 1994; Carter and Narasimhan, 1996). Empirical evidence indicates that firms can indeed obtain competitive advantage by managing supplier relations (Paulraj et al, 1997).

Kiragu (2012) conducted a study to assess the impact of information technology on procurement process in Kenya. The study concluded that, the ability to use technology to improve the contracting process depends in part upon co-operation between the organizations that maintain data and organizations that use the data. Procurement systems promise to bring organizations one step closer to a scenario of integrated, yet modularized systems, which are flexible enough to handle all the different kinds of purchasing routines an organization usually has in place.

Ntayi (2011) examined the relationship between procurement practices, collaborative relationships and supply chain performance of Uganda's Small and Medium Enterprises (SMEs). Findings revealed that procurement practices and collaborative relationships were significant predictors accounting for 29.6% of the variance in supply chain

performance of SMEs. These findings raise implications for owners / managers of SMEs as well as policy makers such as putting in place systems to support collaborative relationships and improve procurement practices to ensure professionalism in order to improve supply chain performance in terms of timely deliveries, flexibility and customer satisfaction.

Nantege (2011) looked at the effect of procurement management on the financial performance of banks in Uganda with a case study of FINA Bank Uganda Ltd. Specifically the study reviewed procurement planning, controls and monitoring and how they affected the performance of banks. It was hypothesized in the study that procurement planning, controls and monitoring positively affect the performance of banks. The key findings of the study indicated that the three procurement management attributes i.e. Procurement planning, controls and monitoring positively affected the performance of the bank. This was because there were significant relationships that were established from the study between these variables and the financial performance of the bank.

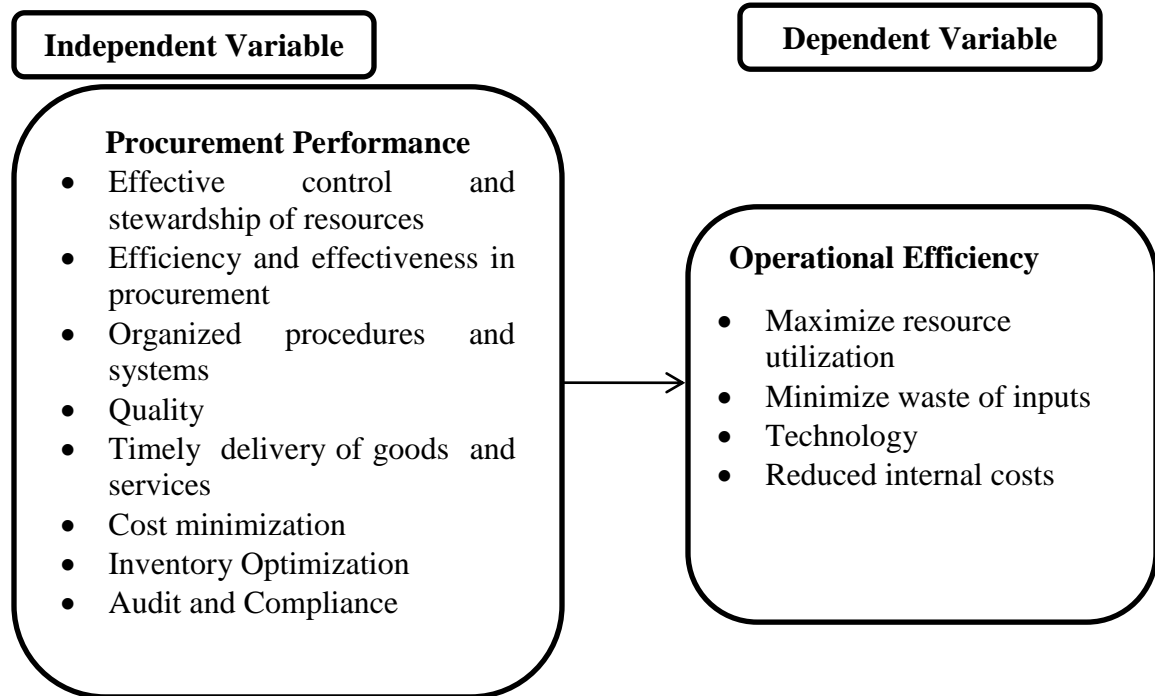
Carter and Narasimhan, (1996), noted that, the purchases can range from individual orders worth a few Euros to multinational contracts with billions of Euros at stake. The list of what organizations purchase nowadays is varied and practically endless. Such purchases include; Production components, raw materials, IT systems, real estate, cleaning services, professional expertise, IT equipment for employees, office supplies, flight tickets, business gifts, mobile phones, electricity, food supplies among others.

Ngugi and Mugo (2012) did a study on the internal factors affecting procurement process of supplies in the public sector; a survey of Kenya government ministries. The findings revealed that accountability, ICT adoption and ethics affected procurement process of health care supplies in the public sector to a great extent. The study therefore recommended that adequate controls should be put in place reducing opportunities for corruption.

2.9 Summary of literature review and research gap

Numerous studies have been carried out to and understanding the two concepts of procurement performance and operations efficiency in various industries. Several scholars have studied the concept; Ngugi and Mugo (2012) did a study on the internal factors affecting procurement process of supplies in the public sector; a survey of Kenya government ministries. Nantege (2011) looked at the effect of procurement management on the financial performance of banks in Uganda with a case study of FINA Bank Uganda Ltd. Specifically the study reviewed procurement planning, controls and monitoring and how they affected the performance of banks. Ntayi (2011) examined the relationship between procurement practices, collaborative relationships and supply chain performance of Uganda's Small and Medium Enterprises (SMEs). Kiragu (2012) conducted a study to assess the impact of information technology on procurement process in Kenya. From the above review limited studies have concentrated on the relationship between operations efficiency and procurement performance. This study therefore sought to fill this research gap.

2.10 Conceptual Framework



A conceptual framework can be seen as an attempt to define the nature of research. A conceptual framework considers the theoretical and conceptual issues surrounding research work and form a coherent and consistent foundation that will underpin the development and identification of existing variables (Atkinson, 2006). This study seeks to establish the relationship between procurement performance and operations efficiency in the telecommunication industry in Kenya. The independent variables in this study is operations efficiency which impacts on the dependent variable which is procurement performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a discussion of the outline of the methodology that was used in this study. It focused on the research design, population of study, sample and sampling techniques, data collection methods and the data analysis methods that was used in this study.

3.2 Research Design

The study employed descriptive cross sectional survey design. The design is used to gather information on a population at a single point in time. This study was about establishing the relationship between operational efficiency and procurement performance in the telecommunication industry in Kenya. It was therefore justified that a cross-sectional surveys was most suited in this study. Cross sectional survey are based on a single examination of a cross-section of population at one point in time. Additionally, high reliability is easy to obtain by presenting all subjects with a standardized stimulus which ensures that observer subjectivity is greatly eliminated (Mugenda and Mugenda, 2004). In this type of research study, either the entire population or a subset thereof is selected, and from these individuals, data are collected to help answer research questions of interest (Robson, 2002).

3.3 Target Population

Target population in statistics is the specific population about which information is desired (Mugenda & Mugenda, 2004). The population of interest were all the players in the telecommunication industry in Kenya see appendix II.

3.4 Sample Design

The sampling plan describes the sampling unit, sampling frame, sampling procedures and the sample size for the study. The sampling frame describes the list of all population units from which the sample will be selected (Cooper & Schindker, 2003). Samples of members of tender, procurement and evaluation committees as well as the three level of management were purposively sampled from all the players in the telecommunication industry in Kenya. Statistically, in order for generalization to take place, a sample of at least 30 must exist (Cooper and Schindler, 2003). Moreover, larger sample minimize errors. Kothari (2004) argues that if well chosen, samples of about 10% of a population can often give good reliability. Other literatures have shown that sample size selection to a great extent is judgmentally decided. At least 5 respondents from each firm were purposively selected. Therefore the study sampled 55 respondents.

3.5 Data Collection

This study collected primary data. The data was collected using a semi structured questionnaire which was administered to members of tender, procurement and evaluation committees as well as the three level of management (senior managers, middle level

managers and lower level managers) in the procurement department in all the players in the telecommunication industry in Kenya. The preference for a questionnaire was based on the fact that respondents are able to complete it without help, anonymously, and it was cheaper and quicker than other methods while reaching out to larger sample (Robson, 2002).

3.6 Reliability and validity test

The study tested for the Reliability and validity of the questionnaire. The study adopted content validity to indicate whether the test items represented the content that the test was designed to measure. The pilot study aided in determining accuracy, clarity and suitability of the instruments. It also assisted to classify scarce and ambiguous items such that those that did not evaluate the variables intended, were modified. To ensure validity, the supervisor also examined the instruments that was used in the study.

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated trials (Nsubuga, 2000). This researcher will carry out a pilot study in one of the telecommunication firms. The reliability of the instrument was estimated using Cronbach's Alpha Coefficient which is a measure of internal coefficient. A reliability of at least 0.70 at $\alpha=0.05$ significance level of confidence was accepted. Adjustments was made accordingly incase a low co-efficient was obtained in order to improve on the instrument.

3.7 Data Analysis

Before processing the responses, the completed questionnaires was sorted, checked and edited for completeness and consistency. The data was then be coded to enable the responses to be grouped into various categories. Descriptive statistics was used to analyze the quantitative data. Coding will be done in SPSS, analyzed and the output interpreted in frequencies, percentages, mean scores and standard deviation. The findings were presented using tables. This was enhanced by an explanation and interpretation of the data.

In addition, a multivariate regression model was applied to determine the relative importance of each of the four variables with respect to procurement performance. Regression method was used due to its ability to test the nature of influence of independent variables on a dependent variable. Regression is able to estimate the coefficients of the linear equation, involving one or more independent variables, which best predicted the value of the dependent variable (Coben, 2001). This is what a correlation analysis cannot provide as compared to a regression analysis. Consequently, based on these considerations, the multiple regression analysis was chosen as the approach to analyze the data.

The model specification is as follows; $Y = \beta_0 + \beta_1 X_1 + \varepsilon$ Where;

Y= Procurement Performance

X_1 = Operational Efficiency

ε = error term

β = coefficient of determination

β_0 = constant

CHAPTER FOUR

DATA ANALYSIS PRESENTATION AND INTERPRETITION

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The results are presented on the procurement performance and operational efficiency in telecommunication industry in Kenya. The data was gathered exclusively from questionnaire as the research instrument. The questionnaire was designed in line with the objectives of the study. To enhance quality of data obtained, likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five point likerts scale.

4.1.1 Response Rate

The study targeted to sample 55 respondents in collecting data with regard to the procurement performance and operational efficiency in telecommunication industry in Kenya. From the study, 41 out of 55 sampled respondents filled in and returned the questionnaire contributing to 75%. This commendable response rate was made a reality

after the researcher made personal visits to remind the respondent to fill-in and return the questionnaires.

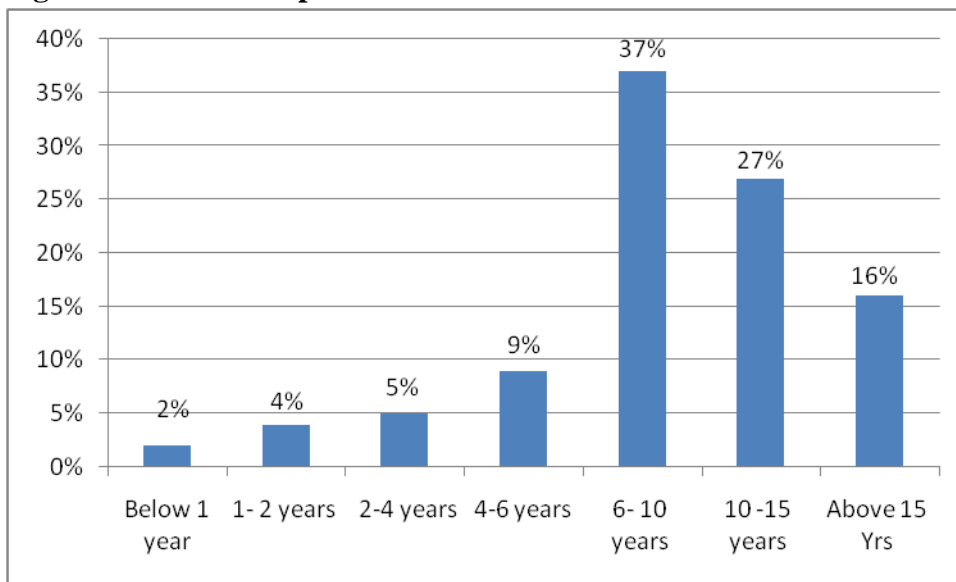
Table 4.1 Response Rate

Response	Frequency	Percentage
Responded	41	75
Not responded	14	25
Total	55	100

4.2 Company Demographics

4.2.1 Years in Operation

Figure 4.1 Years in operation

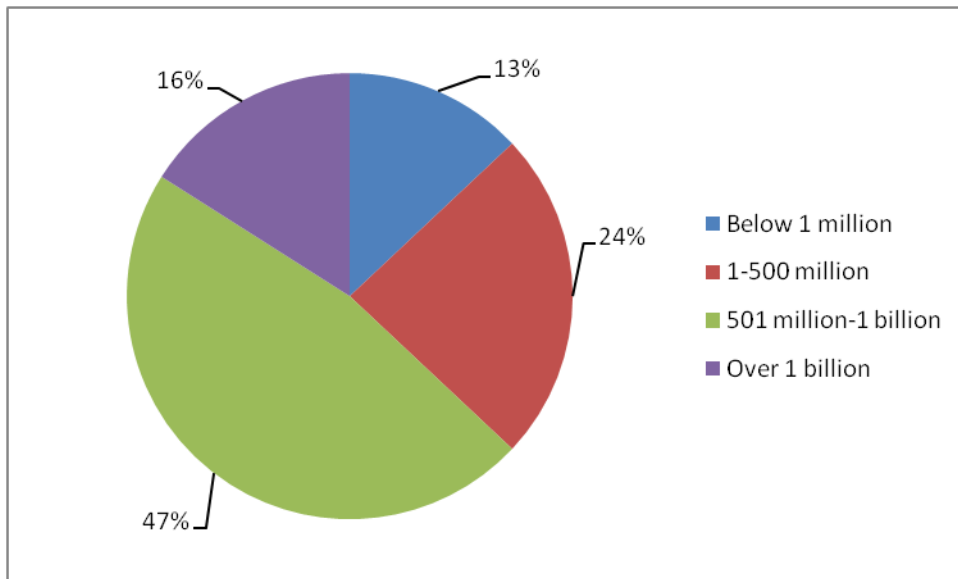


The study to determine the number of years the respondents organizations had been operating, 37% who were the majority indicated that they had been operating for a period between 6 to 10 years, 27% indicated that they had been operating for a period between 10 to 15 years, 16% indicated that they had been operating for a period above 15 years,

9% indicated that they had been operating for a period between 4 to 6 years, 5% indicated that they had been operating for a period between 2 to 4 years, 4% indicated that they had been operating for a period between 1 to 2 years whereas 2% indicated that they had been operating for a period below one year.

4.2.2 Turnover

Figure 4.2 Turnover



The study sought to determine the turnover in the respondents organizations, 47% who were the majority indicated that the turnover was between 501 million to 1 billion people, 24% indicated that the turnover was between 1 to 500 million people, 16% indicated that the turnover was over 1 billion people whereas 13% indicated that the turnover was below 1 million people.

4.2.3 Number of Employees

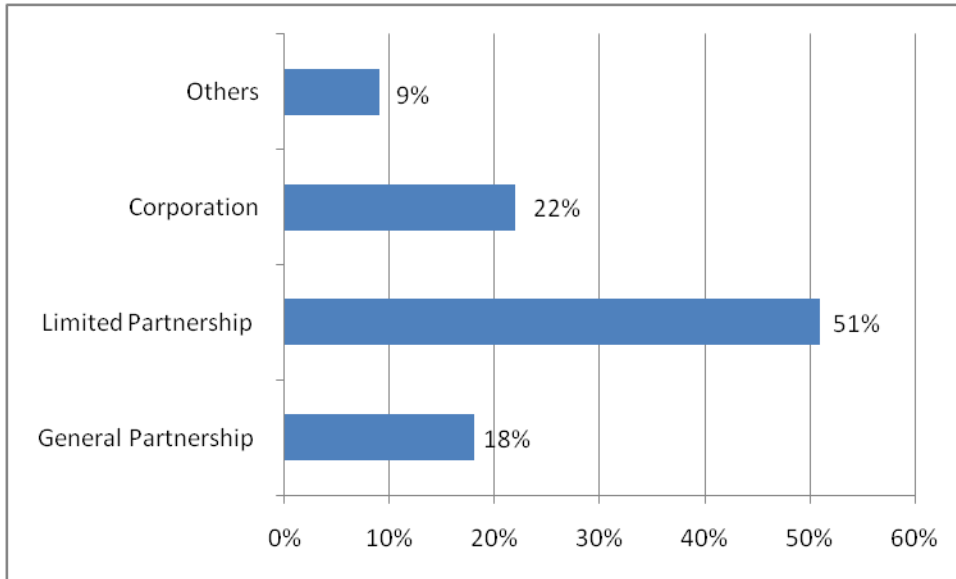
The study sought to determine the number of employees in the respondent's organizations; 45% who were the majority indicated that they had 501 to 1000 employees, 24% indicated that they had 101 to 500 employees, 18% indicated that they had above 1000 employees whereas 13% indicated that they had less than 100 employees in their organizations.

Table 4.2 Number of employees

Number of employees	Frequency	Percentage
Less than 100	7	13
101-500	13	24
501-1000	25	45
Above 1000	10	18
Total	55	100

4.2.4 Business Type

Figure 4.3 Business type



The study to determine the respondents' business type; 51% who were the majority indicated that their business was a limited partnership, 22% indicated that their business was a corporation, 18% indicated that their business was a general partnership whereas 9 % indicated that their business was in other business types.

4.3 Performance Functions

4.3.1 Performance functions on Procurement Performance

On accessing performance functions during procurement, the study found that flexibility ensured procurement performance to a great extent as shown by a mean score of 4.11, cost ensured procurement performance to a great extent as shown by a mean score of 4.02, quality ensured procurement performance to a great extent as shown by a mean score of 3.91 and time ensured procurement performance to a great extent as shown by a mean score of 3.79.

Table 4.3 Performance functions on Procurement Performance

Statements	Mean	Std.dev
Cost	4.02	.743
Time	3.79	.410
Quality	3.91	.120
Flexibility	4.11	.924

4.3.2 Rate of Company's Procurement Performance

The study sought to determine the rate of company's procurement performance. According to the study quality factor influenced company's procurement performance to a great extent as shown by a mean score of 4.27, time factor influenced company's procurement performance to a great extent as shown by a mean score of 4.10, cost factor influenced company's procurement performance to a great extent as shown by a mean score of 4.03 and flexibility factor influenced company's procurement performance to a great extent as shown by a mean score of 3.77.

Table 4.4 Rate of company's procurement performance

Statements	Mean	Std.dev
Cost	4.03	.321
Time	4.10	.961
Quality	4.27	.197
Flexibility	3.77	.763

4.4 Operation Efficiency (Corporate)

4.4.1 Operational Efficiency in Telecommunication Industry

The study sought to determine how the following statements influence operational efficiency in telecommunication industry, respondents indicated that labour productivity influenced operational efficiency to a great extent as shown by a mean score of 4.10, resource utilization influenced operational efficiency to a great extent as shown by a mean score of 3.92, equipment utilization influenced operational efficiency to a moderate extent as shown by a mean score of 3.47 and reduced international costs influenced operational efficiency to a moderate extent as shown by a mean score of 3.17.

Table 4.5 Operational Efficiency in Telecommunication Industry

Statement	Mean	Std.dev
Resource utilization	3.92	.789
Reduced international costs	3.17	.352
Equipment utilization	3.47	.184
Labour productivity	4.10	.932

4.5 Regression Analysis of the Findings

The researcher conducted a multiple linear regression analysis so as to determine the relationship between the factors affecting procurement performance and the four independent factors namely: Maximized resource utilization, minimized waste of inputs, technology and reduced internal costs.

The regression equation was

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Whereby Y = Procurement performance

X₁ = Maximized resource utilization

X₂ = Minimized waste of inputs

X₃ = Technology

X₄ = Reduced internal costs

Table 4.6 Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.843	0.742	0.724	0.4216

a) Predictors: (Constant), Maximised resource utilization, minimized waste of inputs, technology, and reduced internal costs.

b) Dependent variable: Procurement performance

The study used the R square. The R Square is called the coefficient of determination and tells us how the procurement performance varied with maximized resource utilization, minimized waste of inputs, technology, and reduced internal costs. The four independent variables that were studied explain 74.2% of the factors affecting procurement

performance as represented by R Squared (Coefficient of determinant). This therefore means that other factors not studied in this research contribute 25.8% of the factors affecting procurement performance.

Table 4.7 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.72	9	1.302	44.231	.000(a)
	Residual	3.432	32	0.066		
	Total	15.152	41			

a) Predictors: (Constant), Maximised resource utilization, minimized waste of inputs, technology, and reduced internal costs

b) Dependent Variable: Procurement performance

The study used ANOVA to establish the significance of the regression model from which an f-significance value of p less than 0.05 was established. The model is statistically significant in predicting how maximized resource utilization, minimized waste of inputs, technology and reduced internal costs affect procurement performance. This shows that the regression model has a less than 0.05 likelihood (probability) of giving a wrong prediction. This therefore means that the regression model has a confidence level of above 95% hence high reliability of the results.

Table 4.8 Coefficients Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.116	.186		0.623	.535
Maximized resource utilization	0.577	.068	.559	8.478	.000
Minimized waste of inputs	0.157	.043	.257	3.676	.036
Technology	0.082	.042	.301	2.252	.020
Reduced internal costs	0.021	.002	.245	6.906	.001

- a) Predictors: (Constant), maximised resource utilization, minimized waste of inputs, technology, and reduced internal costs
- b) Dependent Variable: procurement performance

The established regression equation was

$$Y = 0.116 + 0.577X_1 + 0.157X_2 + 0.082X_3 + 0.021X_4 + \varepsilon$$

The regression equation above has established that holding all factors (Maximized resource utilization, minimized waste of inputs, technology and reduced internal costs) constant, factors affecting procurement performance will be 0.116. The findings presented also shows that taking all other independent variables at zero, a unit increase in maximized resource utilization will lead to a 0.577 increase in the scores of the procurement performance. A unit increase in minimized waste of inputs will lead to a 0.157 increase in procurement performance. On the other hand, a unit increase in technology will lead to a 0.082 increase in the scores of the procurement performance;

and a unit increase in reduced internal costs will lead to a 0.021 increase in the scores of the procurement performance. This infers that maximized resource utilization influences the procurement performance most followed by technology, minimized waste of inputs and then reduced internal costs. The study also established a significant relationship between procurement performance and the independent variables; maximized resource utilization ($p=0.00<0.05$), minimized waste of inputs ($p=0.036<0.05$), technology ($p=0.20<0.05$) and reduced internal costs ($p=0.001<0.05$) as shown by the p values.

4.5.1 Non-parametric correlation

A Spearman correlation is used when one or both of the variables are not assumed to be normally distributed. The values of the variables were converted in ranks and then correlated. The study correlated maximized resource utilization, minimized waste of inputs, technology and the reduced internal costs under the assumption that both of these variables are normal and interval.

Table 4.9 Correlations

			Maximized resource utilization	Minimized waste of inputs	Technology	Reduced internal costs
Spearman's rho	Maximized resource utilization	Correlation Coefficient Sig. (2-tailed) N	1.000 .41	.617 .000 41	.547 .000 41	.667 .000 41
	Minimized waste of inputs	Correlation Coefficient Sig. (2-tailed) N	.617 .000 41	1.000 .41	.437 .000 41	.235 .001 41
	Technology	Correlation Coefficient Sig. (2-tailed) N	.547 .000 41	.437 .000 41	1.000 .41	.441 .002 41
	Reduced internal costs	Correlation Coefficient Sig. (2-tailed) N	.667 .000 41	.235 .000 41	.441 .000 41	1.000 .41

The results suggest that the relationship between maximized resource utilization and minimized waste of inputs ($\rho = 0.617$, $p = 0.000$) is statistically significant. Maximized resource utilization and technology had a rho of 0.547 and a p value of 0.000 therefore denoting statistical significance. Similarly, the maximized resource utilization and reduced internal costs posted a rho of 0.667 with a p value of 0.000 therefore providing a statistical significance. Minimized waste of inputs and technology had a rho of 0.437, $p=0.000$ further pointing to a statistical significance. On the same note, the minimized waste of inputs and the reduced internal costs correlated at $\rho=0.235$ and $p=0.001$. This therefore is statistically significant. Finally, the technology and reduced internal costs stood at a correlation of $\rho=0.441$ and $p= 0.002$ revealing statistical significance.

4.6 Discussion

According to the study findings flexibility performance ensured procurement performance to a great extent. Cost ensured procurement performance to a great extent. Quality ensured procurement performance to a great extent. Time ensured procurement performance to a great extent. This study findings correlate with Scheraga (2004) and Muhittin and Reha (1990) who asserts that in order to attain operational efficiency a company needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes. The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets. Operational efficiency is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner.

The study further found that labour productivity influenced operational efficiency to a great extent. Resource influenced operational efficiency to a great extent. Equipment utilization influenced operational efficiency to a moderate extent. Reduced international costs influenced operational efficiency to a moderate extent. These findings were in line with findings of Lardenoije et al, (2005) and VanWeele (2005) who found that only when the procurement function is well planned, it is easy to identify areas where it is performing well, and where there is need for improvement. If costs decline, the purchasing function will be praised, while if savings decline, the purchasing function will

be queried. It is as if the purchasing function is established to focus on minimizing costs while maximizing efficiency. Financial measures ignore market dynamics and increased complexity in acquisition of goods and services for public entities.

According to the study findings taking all the independent variables at zero, a unit increase in maximized resource utilization will lead to an increase in the scores of the procurement performance. A unit increase in minimized waste of inputs will lead to an increase in procurement performance. On the other hand, a unit increase in technology will lead to an increase in the scores of the procurement performance; and a unit increase in reduced internal costs will lead an increase in the scores of the procurement performance. The study also established a significant relationship between procurement performance and the independent variables; maximized resource utilization minimized waste of inputs, technology and reduced internal costs. The findings were similar with a study done by Knudsen, (1999) who suggested that procurement performance starts from purchasing efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive to attain set performance levels in an entity. Also Amaratunga and Baldry (2002) suggest that performance is a key driver to improving quality of services while its absence or use of in appropriate means can act as a barrier to change and may lead to deterioration of the purchasing function.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings from chapter four, and also it gives the conclusions and recommendations of the study based on the objectives of the study. The objectives of this study were to determine the procurement performance in telecommunication industry in Kenya, to determine the operational efficiency in telecommunication industry in Kenya and to establish the relationship between operations efficiency and procurement performance in the telecommunication industry in Kenya.

5.2 Summary of the Findings

The study found that flexibility performance ensured procurement performance to a great extent. Cost ensured procurement performance to a great extent. Quality ensured procurement performance to a great extent. Time ensured procurement performance to a great extent.

The study also found out that quality factor influenced company's procurement performance to a great extent. Time factor influenced company's procurement performance to a great extent. Cost factor influenced company's procurement

performance to a great extent. Flexibility factor influenced company's procurement performance to a great extent.

The study further found that labour productivity influenced operational efficiency to a great extent. Resource influenced operational efficiency to a great extent. Equipment utilization influenced operational efficiency to a moderate extent. Reduced international costs influenced operational efficiency to a moderate extent.

According to the findings maximized resource utilization and technology had a rho of 0.547 and a p value of 0.000 therefore denoting statistical significance. Similarly, the maximized resource utilization and reduced internal costs posted a rho of 0.667 with a p value of 0.000 therefore providing a statistical significance. Minimized waste of inputs and technology had a rho of 0.437, $p=0.000$ further pointing to a statistical significance. On the same note, the minimized waste of inputs and the reduced internal costs correlated at $\rho=0.235$ and $p=0.001$. This therefore is statistically significant. Finally, the technology and reduced internal costs stood at a correlation of $\rho=0.441$ and $p=0.002$ revealing statistical significance.

5.3 Conclusions

The study concludes that labour productivity influenced operational efficiency to a great extent. Resource influenced operational efficiency to a great extent. Equipment utilization influenced operational efficiency to a moderate extent. Reduced international costs influenced operational efficiency to a moderate extent. These findings were in line with

findings of Lardenoije et al, (2005) and VanWeele (2005) who found that only when the procurement function is well planned, it is easy to identify areas where it is performing well, and where there is need for improvement.

The study finally concludes that flexibility performance ensured procurement performance to a great extent. Cost ensured procurement performance to a great extent. Quality ensured procurement performance to a great extent. Time ensured procurement performance to a great extent. This study findings correlate with Scheraga (2004) and Muhittin and Reha (1990) who asserts that in order to attain operational efficiency a company needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes.

5.4 Recommendation

The study recommends that telecommunication companies should introduce strict internal controls suitable for streamlining efficiency in its procurement function. In addition to the strict internal controls, the organizations should follow a general pattern of procurement methods so that it facilitates easy Audit trail. The study recommends that telecommunication companies should institute a strict code of conduct to avoid fraud and bribery.

The telecommunication companies should establish a procurement unit with qualified, skilled and knowledgeable personnel to spearhead the procurement operations in order to

stream line most of the existing weaknesses in the procurement controls , the telecommunication companies should undertake to do market capability analysis as part of its procurement management. This will allow the telecommunication companies to assess the ability of the market to meet its required goods and services in the right quantities and quality in the right timings. The telecommunication companies should also work on having reliable suppliers whose delivery schedules are realistic and within the telecommunication company's requirements. This will minimize emergency purchases that are normally expensive and therefore negatively impact on the performance of the telecommunication companies. The telecommunication companies should also undertake to have prequalified suppliers so that the procurement process is shortened for routine purchases and this too, will help establish long term relationships with the suppliers and thereby, better bargaining power.

5.5 limitations of the study

The limitation of this study was the limit of time and scale of the research, which was done only in telecommunication industry in Kenya.

Due to time constraint, just Managers from the following departments; engineering, operations, administration, procurement, human resource, projects, business development and corporate planning were selected as the respondents from each department. In the event of a more corroborative research work between the academia and industry, the number of managers and department could be increased.

5.6 Suggestions for Further Research

The study was limited to four attributes of operational efficiency and few variables of procurement performance measures. There is a need for future research to replicate the findings employing multi-disciplinary measures of telecommunication sector performance and wider coverage of procurement performance. The key reason for the responses to strategic procurement initiatives is to ensure organization survival through mitigation of threat to take advantage of the opportunities by aligning the organizations and the procurement through a strategy. The study recommends further research could be conducted to determine the effect of procurement operational efficiency on financial performance among the telecommunication companies in Kenya. The study will bring closer the financial effect of operational efficiency in procurement practices on the overall performance of telecommunication companies in Kenya.

References

- Amaratunga & Baldry, J. (2002). "Characteristics of supply chain management and the implications for purchasing and logistics strategy". *International Journal of Logistics Management*, Vol. 4, No. 2, pp.13-24.
- Anvuur, A. and Kumaraswamy, M. (2006). Taking forward public procurement reforms in Ghana, CIB W107, *Construction in Developing Economies International Symposium*; Construction in Developing Economies: New issues and Challenges January 18th – 20th, Santiago, Chile.
- Atkinson, W. (2006). New buying tools present different ethical challenges. *Purchasing*, 132 (4). 27-30.
- Batenburg, S. and Versendaal, A. (2006). Progress on E-Procurement: Experiences from Implementation in the UK Public Sector. *Journal of Purchasing and Supply Management*, Vol. 13, Issue 4, pp. 294-303.
- Beer, J. (2011). Rethink, reinvent and renew. *Efficient Purchasing* 12/2011, 18-22.
- Buvik, A. and John, G. (2000). When does vertical coordination improve industrial purchasing relationships? *Journal of Marketing*, 64(4), 52–64.
- Carter P. and Narasimhan, L. (1996) "Hameri from supply chain to demand chain: the role of lead time reduction in improving demand chain performance", *Journal of Operations Management*, Vol. 21, pp. 613-27.
- Cooper, D.R. & Schindler, P.S. (2003). *Business Research Methods*. (8th ed). Boston, MA: McGraw Hill.
- Dimitriades, Z. and Maroudas, T. (2007). „Internal service climate and psychological empowerment among public employees: An exploratory study in Greece“, *Transforming Government: People, Process and Policy*, vol. 1, no. 4, pp. 377 - 400.
- Ellram, L. (1994). Purchasing: The cornerstone of the total cost of ownership concept. *Journal of Business Logistics*. Vol. 14 No. 1 1993, 163-184.

- Hunja, R. (2003). "Obstacles to Public Procurement Reform in Developing Countries," in Sue Arrow smith and Martin Trybus (editors) *Public Procurement: The Continuing Revolution*, Kluwer Law International.Pp.48-76
- Iloranta, S.A. (2008). "The Economic Theory of Agency and the Principle of Similarity". *Essays On Economic Behavior under Uncertainty*. M. D. B. e. al. Amsterdam, North-Holland.
- Javier, A. Lorenzo, C. and Inked, L. (2010). Driving efficiency through strategic procurement: The successful implementation of strategic procurement in organizations to improve their EBIT margins by p.p.4-8
- Kakwezi, D. and Nyeko, P. K. (2010). *Procurement Processes and Performance: Efficiency and Effectiveness of the Procurement Function*.
- Kiragu, R.W. (2012). *Information Technology and procurement process in Kenya*. Available at: Availableat:<http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/13532> [Accessed August 2014].
- Knudsen, K.D. (1999). *The struggle for accountability: The World Bank, NGO, and Grassroots Movements*. Massachusetts Institute of Technology. ISBN 0-262-56117-4.
- Kothari, C. R. (2004). *Research Methodology, Methods and Techniques*. 2nd revised edition, New Age International (P) limited Publishers, 2004
- Lardenoije, D. Van Raaij, K. and VanWeele P. (2005). "GMS Trade - Trends and Patterns", in P. Srivastava and. Kumar (eds.): *Trade and Trade Facilitation in the Greater Mekong Sub region*, (Mandaluyong City, Philippines, Asian Development Bank).Pp22
- Lloyd, R. E. (2004). Enhancing Procurement Practices: Comprehensive Approach to Acquiring Complex Facilities and Projects (Book Review). *The Journal of Public Procurement*, 4 (3), 471-477.

- Macbeth, D.K. Ferguson, N. (1994). Partnership Sourcing, an Integrated Supply Chain Approach, Financial Times/Pitman Publishing, London.
- Magutu, P. O. Njihia, J. M. and Mose, J. M. (2013). "The Critical Success Factors and Challenges in E-Procurement Adoption among Large Scale Manufacturing Firms in Nairobi, Kenya." *European Scientific Journal (ESJ)*; Volume 9(Number 2)
- McCue, C.P. and Pitzer, J.T. (2006). "Centralized vs Decentralized Purchasing: Current Trends in Government Procurement Practices." *Journal of Public Budgeting, Accounting & Financial Management*, 12 (3): 400-420.
- Mugenda, O.M. and Mugenda, A.G. (2004): revised. Research Methods; Quantitative Qualitative Approaches: ACTS Press, Nairobi.
- Muhittin, O. Reha, Y. (1990). An empirical study on measuring operating efficiency and profitability of bank branches. *European Journal of Operational Research* 46, 282-294
- Nantege, L. (2011), Total cost of ownership – An analysis approaches for purchasing. *International Journal of Physical Distribution & Logistics Management*, Vol. 25 No. 8, 1995, 4-23.
- Ngugi P. and Mugo, K. (2012). Factors Affecting Effective Management of the procurement Function at Nakuru North Sub-County
- Nsubuga, E. H. K. (2000). Fundamentals of Education Research. Kampala, Uganda. K Publishers (U) Ltd.
- Ntayi, B.N. (2011). "Assessing knowledge assets: a review of the models used to measure Intellectual capital", *International journal of Management reviews*, Vol. 3 No. 1, pp. 41-60
- Nyeko, P. K. (2004). *Procurement Processes and Performance: Efficiency and Effectiveness of the Procurement Function*.
- Paulraj, P.C. Pearce, J.A. and Robinson, R.B. (1997). "Developing A Model of the Global and Strategic Impact of Information Technology," *Information and Management*. 32, 229-244

- Robson, R. C. (2002). Introduction to Statistics and Data Analysis. With CD-ROM. Pacific Grove, CA: Duxbury Press; 2001.
- Scheraga, C. A. (2004). The relationship between operational efficiency and customer service. A global study of thirty eight large international airlines.
- Thai, K. V. (2005). Challenges in public procurement. United Nations Procurement Capacity Development Centre. August, 2014, Retrieved from <http://unpcdc.org/media/4899/challenges%20in%20public%20procurement.pdf>.
- Van Weele, A.J. (2002) Purchasing and Supply Chain Management. Analysis, Planning and Practice, 3rd edition. Thomson Learning, London.
- Vonderembse, M.A. and Tracey, M. (1999). The Impact of Supplier Selection Criteria and Supplier Involvement on Manufacturing Performance. *The Journal of Supply Chain Management*, vol. 35, no. 3, pp. 33-39.
- Zima, H. (2007). "Values and the Choice of the Model of the Individual in the Social Sciences." *Schweizerische Zeitschrift für Volkswirtschaft* (December).

APPENDICES

Appendix 1: Questionnaire

The results of this study will be used purely for academic purposes. You will remain anonymous throughout the entire questionnaire so please volunteer as much information relevant to this study as possible. Please give answers in the spaces provided and tick (✓) the box that matches your response to the questions where applicable.

SECTION A: Company Demographics

1. Years in operation

- | | | | | | |
|--------------|--------------------------|-------------|--------------------------|--------------|--------------------------|
| Below 1 year | <input type="checkbox"/> | 1- 2 years | <input type="checkbox"/> | 2-4 years | <input type="checkbox"/> |
| 4-6 years | <input type="checkbox"/> | 6- 10 years | <input type="checkbox"/> | 10 -15 years | <input type="checkbox"/> |
| Above 15 Yrs | <input type="checkbox"/> | | | | |

2. Turnover

- | | |
|-------------------------|--------------------------|
| Below 1 million | <input type="checkbox"/> |
| 1- 500 million | <input type="checkbox"/> |
| 501 million – 1 billion | <input type="checkbox"/> |
| Over 1 billion | <input type="checkbox"/> |

3. Number of employees

- | | | | |
|---------------|--------------------------|------------|--------------------------|
| Less than 100 | <input type="checkbox"/> | 101 – 500 | <input type="checkbox"/> |
| 501 – 1000 | <input type="checkbox"/> | Above 1000 | <input type="checkbox"/> |

4. Business type

General Partnership []

Limited Partnership []

Corporation []

Other specify.....

SECTION B: Performance Functions

5. To what extent do the following performance functions ensure procurement performance? Use a scale of 1-5 where; 1 No extent, 2 little extent, 3 Moderate extent, 4 Great extent and 5 Very great extent

	1	2	3	4	5
Cost					
Time					
Quality					
Flexibility					

6. Kindly rate your company's procurement performance in the given factors

	Very poor	Poor	Neither good nor poor	Good	Very good
Cost					
Time					
Quality					
Flexibility					

SECTION C: Operation Efficiency (Corporate)

7. To what extent do the given influence operational efficiency in telecommunication industry

	1	2	3	4	5
Resource utilization					
Reduced international costs					
Equipment utilization					
Labour productivity					

THANK YOU FOR YOUR TIME AND PARTICIPATION

Appendix II: A List of Telecommunication Industries in Kenya

1. Safaricom Ltd
2. Bharti Airtel Kenya
3. Essar Telecom Kenya
4. Orange Kenya
5. Access Kenya Group
6. Africa Online
7. Inter-Connect Ltd
8. Jambonet
9. Kenya Data Networks
10. Kenya Internet Exchange
11. Mobitelea Ventures Limited
12. Jamii Telecommunications LTD
13. Zuku ltd
14. Intersat Africa ltd

Source: CAK 2014