

# INFLUENCE OF PROCUREMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE OF ENERGY SECTOR IN KENYA

(A CASE OF KENYA POWER COMPANY, THIKA REGION)

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**Abstract:** The current business environment is growing to be more challenging, and so, companies have to increase their business operations to stay competitive. According to this idea, one of the most important factors for improving business operations is implementing of procurement management practices that translates into improved organizational performance. Hence the general objective of this study was to establish influence of procurement practices on organizational performance of energy sector: a case of Kenya power company, Thika region with the Specific objectives which are to assess the influence of procurement planning on organizational performance at Kenya Power Thika region, to determine the influence of supplier relationships on organizational performance at Kenya Power Thika region, to establish the influence of Technology utilisation in Procurement on organizational performance at Kenya Power Thika region, and finally to find out the influence of procurement policy on organizational performance at Kenya Power Thika region. The study adopted both descriptive and correlational design. A correlation research design is a specific type of non-experimental design used to describe the relationship between or among variables. The target population of the study was 1400 employees of Kenya Power in Central Kenya region working in Thika station. The respondents are 14 top level managers, 300 middle level managers, and 1086 lower level managers. The study used Yamane formula to determine the sample size of 311. In this case the study selected 3 top level managers, 67 middle level managers, and 241 lower level managers from the Kenya Power Thika Station. The study used stratified random sampling method. The stratified sampling was used because the employees are divided into various strata. The individual respondents were randomly selected from the target population. Data collection was done through primary and secondary sources in soliciting information from respondents. Primary data was collected using structured questionnaires. On the other hand, secondary data was collected from the research journals, reports, and internet. The questionnaire was subjected to content, construct and face validity. The Cronbach's alpha ( $\alpha$ ) approach was used to test for the reliability of the instrument. The research adopted descriptive statistics and inferential statistics to analyze quantitative data. Data was analyzed using the statistical package for social sciences (SPSS) version 20.0 based on the questionnaires. The descriptive statistics involved frequency distribution table, percentage, mean and standard deviation while the inferential statistics was correlation analysis. The Pearson's correlation was used to test for the relationship between the independent variables and the dependent variables. The study found that 79.8% which means that the independent variables (Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy) explained organisational performance to an extent of change. There are other factors which are not captured by the proposed model in this study which are captured by 20.2% which is not explained. The study was having value to the Procurement Department of Kenya Power Company as they knew that the value of having the procurement best practices that they can achieve efficiency and effectiveness in performance. The study will help procurement managers in various organizations understand the procurement best practices and thus use them when they will undertake procurement process in their organizations.

**Keywords:** Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy.

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## 1. INTRODUCTION

### 1.1 Background of Study

According to Bartlett, and Beamish, (2018), the recent business environment is growing to be more challenging, and so, companies have to increase their business operations to stay competitive. According to this idea, one of the most important factors for improving business operations is implementing of procurement management practices that will translate into improved organizational performance. Procurement practices are strategies that may be followed when making company purchasing decisions. These practices may include appropriate use of information technology (IT), building strong supplier relationships, procurement planning and procurement policy. Implementing procurement best practices may significantly improve the effectiveness of purchasing decisions.

First, one of the most important procurement practices may be the appropriate use of information technology. The adoption of information technology (IT) practices such as electronic procurement (e-procurement) is enabling companies to have effective and efficient online orders and payments. Second, building of strong supplier relationship is equally important in the procurement process. The involvement of suppliers in product development will reduce the need for rework and inspection of the product. In addition, the supplier involvement will help in the reduction of cost of the product and services delivered to the company (Wendy van der Valk, Wynstra, 2012).

Another procurement practice is to develop procurement planning. The procurement planning will help the company in budgetary allocations, environmental awareness and making of quality procurement teams (Basheka, 2009). Finally, the other most important procurement practices involve the procurement policy. The procurement policy will involve the set up rules and regulations that governs the procurement process, the legal aspects and also the procurement leadership. The procurement policy will enable an organization to operate within its boundaries and also adherence to the rule of law (Preuss, 2009).

Globalizing companies respond to the challenges of organizational performance through the implementation of procurement practices (Robson, 2013). Procurement practices provides the right metrics and key performance indicators that can aid the global firm when juggling performance, resources, costs and operational logistics from relocated departments and manufacturing facilities (Shah, 2010). Procurement practices provide integration to globalizing companies but they do not provide quick fix to all market penetration and other business infrastructure (Gunson, 2010).

Avery, Swafford and Prater (2014) noted that impact of supplier relationship management practices on buying firm performance in the USA has helped companies to maintain their competitiveness. In addition, Performance improvement and competitive advantage can be achieved by cooperative relations with suppliers, which include: trust, supporting suppliers to improve their processes, information sharing, supplier involvement in new products development, and long-term relationships.

Basheka (2009) highlights that Poor procurement planning has been one of the major stumbling blocks to the economic development of Africa and it has been clear that a number of African countries have not paid adequate attention to the proper management of public resources. An efficient public procurement system is vital to the advancement of African countries and is a concrete expression of the national commitment to making the best possible use of public resources.

In Kenya, the PPOA Manual (2009), stated that adequate planning and prioritization of needs by each procuring entity is an essential prerequisite to effective procurement for the following reasons: Funding for procurement is unlikely to be sufficient to meet all requirements, and scarce financial resources must be allocated to meet the priority public services before less essential needs; and publication of realistic annual procurement plans allows the private sector to respond more effectively to the requirements and specifications of government, through investment in staff and equipment, manufacture and importing of goods, and financial planning.

### 1.2 Statement of the problem

Public procurement is increasingly becoming an essential in service delivery in the developing countries (Basheka and Bisangabasaiji, 2010), and it accounts for a high proportion of total expenditure. By understanding the procurement practices such as the use of technology in procurement, strong supplier relationship, procurement planning and procurement policy, it is possible to get better service delivery, effectiveness and continuous quality improvement. In

Kenya, procurement activities grew from 5.8 percent in 2001/2002 to 23.6 percent in 2007/2008 (PPOA, 2009). However, Leni et al. (2012) noted that there is a growing recognition, that despite significant increases in resources, public service delivery is still falling in many developing countries (Leni et al., 2012). Consequently, procurement practices such as, procurement policy, procurement planning as well as sustainable procurement issues are factors that may offer part of the explanation.

However, use of technology, strong supplier relationship, and procurement planning and procurement policy are fundamental in achieving value for money within both private and public sector entity. Procurement practices are evolving and require effective and efficient policy and implementation. Obviously, Public Sector procurement spending accounts for huge percentage of total budget; this is so due to the magnitude of procurement categories being procured. This entails that the procurement practices be streamlined. Service delivery can only be effective and efficient when processes and systems are well in place and followed accordingly (Sindiga., Paul, & Mbura,2019).

Unfortunately, in most developing countries, the procurement practices are bypassed or being looked at as insignificant. As a result, implementation becomes a nightmare (Sindiga., Paul, & Mbura,2019). The issue of service delivery is very much evolving and requires adequate technology, supplier relationship, planning and policy. The major objective of service delivery in the public sector is to meet the satisfaction of the citizenry, thus meeting the socio-economic objective of the country to a larger extend. There is limited empirical literature on procurement practices influencing service delivery especially so with the power sector in the developing countries. This study therefore is aim at bridging this gap by examining the influence of procurement practices on public organizations performance at Kenya Power Company, Thika Region.

### **1.3 Objectives of the study**

#### **1.3.1 General objective of the study**

The general objective of this study was to establish influence of procurement practices on organizational performance of energy sector in Kenya: a case of Kenya power company, Thika region

#### **1.3.2 Specific objectives of the study**

1. To assess the influence of procurement planning on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region
2. To determine the influence of supplier relationships on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region
3. To establish the influence of Technology utilisation in Procurement on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region
4. To find out the influence of procurement policy on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region

### **1.4 Research questions**

The study was guided by the following research questions;

1. What is the influence of procurement planning on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region?
2. What is the influence of supplier relationships on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region?
3. What is the influence of Technology Utilization in Procurement on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region?
4. What is the influence of procurement policy on organizational performance of energy sector in Kenya. a case of Kenya power company, Thika region?

## 2. LITERATURE REVIEW

### 2.1 Introduction

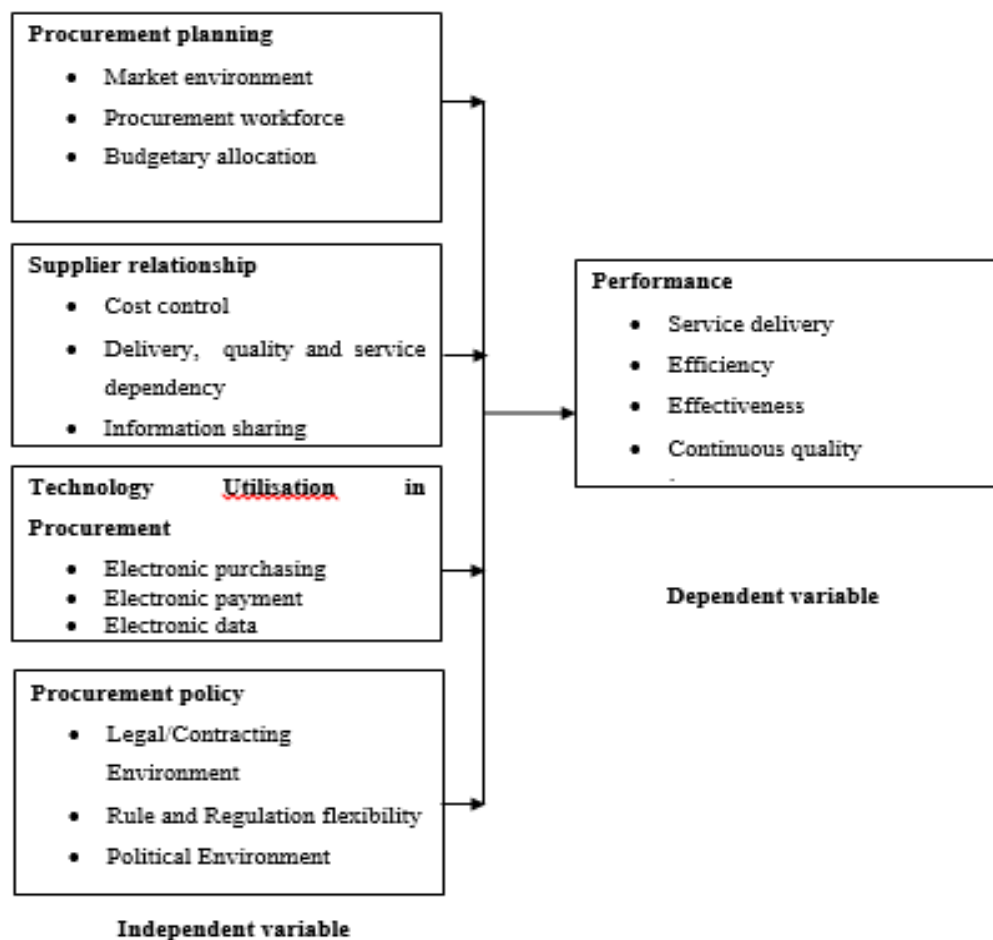
This chapter addresses the theoretical review, conceptual framework and empirical review of the literature. The empirical review is sub divided into four sections including: supplier relationship, procurement planning, Technology Utilisation in Procurement and procurement policy on performance of Kenya Power Thika Station. This chapter also addressed the summary of literature and research gaps.

### 2.2 Theoretical review

A theoretical review refers to the theory that a researcher chooses to guide him/her in his/her research (Cooper and Schindler, 2014). The performance of a firm depends not only on how efficiently it cooperates with its direct partners, but also on how well these partners cooperate with their own business partners. The study used three theories which include: Resource based view theory, social capital theory, Institutional Theory and Network Theory.

### 2.3 Conceptual framework

The Figure 2.1 shows the relationship of the independent variable (Procurement best Practices) and the dependent variable (performance). The independent variable elements will include the following factors: information technology; supplier relationship; procurement planning and procurement policy. On the other hand, the organizational performance will be measured through the service delivery, efficiency, effectiveness and continuous quality improvement. The conceptual framework depicts that the best practices have impact on the performance.



**Figure 2. 1: Conceptual framework**  
Source: Researcher (2018)

Source: Researcher (2018)

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### 2.3.1 Procurement Planning

According to the Industry Manual (2008) a procurement plan is an instrument used for implementing a budget and it should be prepared by the user departments with a view to avoiding or limiting excess votes in the entities' budgets and for ensuring that procurements don't proceed unless there are adequate funds to pay for them. Thus all procurement plans should be integrated into the budget process on the basis of the indicative budget as appropriate and also in conformity with the procurement law.

Section 53(2) of the Public Procurement Asset and disposal Act (2015) provides that an accounting officer shall prepare an annual procurement plan which is realistic in a format set out in the Regulations within the approved budget prior to commencement of each financial year as part of the annual budget preparation process. According to Caldwell, Roehrich, and Davies (2009) concept of procurement is that an advanced plan, schedule and group buying results to saving costs, an efficient business operation and thus increased profitability. Group buying, just in time delivery, negotiated bulk pricing and reduced administrative overhead are the steps that form the basis of procurement planning:

### 2.3.2 Supplier Relationship

Supplier relationship management entails determining how company buyers interact with suppliers. It is a mirror image of customer relationship management. Just as a company needs to develop relationships with its customers, it needs to foster relationships with its suppliers to ensure quality goods and services, timely and assured deliveries and information flow to assist both organizations in planning. At the strategic level, the output of the process is an understanding of the levels of relationships the firm will maintain, and the process for segmenting the suppliers and working with them to develop appropriate relationships. Once the process team determines the criteria for categorization of suppliers and the levels of customization, the operational supplier relationship management process develops and manages the relationship. Relationships can take the form of supplier captive or buyer captive. Supplier applies when the supplier has less chances of changing the buyer either because of the supplier having invested a lot of resources to produce a particular product to a given firm and hence moving will be a loss, a case where a supplier has only one or a few clients to deliver to. Buyer captive arises when the buyer has one source to buy from such as when there is only one supplier or manufacturer of product. In both cases, relationships should be a win-win to both for both firms to reduce costs and share profits.

### 2.3.3 Technology Utilization

At the public sector level, technology enhances infinite and non-restricted access to government information and increases market transparency and economic incorporation based on complementarities (Carayanni & Popescu, 2005). Among the main advantages that public administration can get through a system like this are: costs and process cutting, possible broadening of supplier's base, easy access to preferred goods (predefined quality standards), information intelligibility and ease of comparison among goods and purchases logging and ensuing expenditure monitoring (Petrie, 2001). Similarly, procurement technologies grasp a virtual market; open to capable suppliers and not restrictive selection criteria, in which public administrations can choose goods and services offered by several suppliers (Petrie, 2001). The whole process is digital, using digital signature in order to guarantee transactions lawfully. Aberdeen Group (2006) noted that in comparison to faxed purchase orders and the use of Excel spreadsheets, an effective technology platform, including a robust database management component, is vital to providing reliable and accurate expenditure information for spend analysis and management. An integrated ERP system with an effective Procurement/e-procurement suite is a key enabler to successful strategic procurement planning. Suffice to say, that the application of technology to support procurement is replete; results clearly show that the use of new technologies for instance, Electronic Data Interchange (EDI) increase the efficiency of the procurement as well as improve overall firm performance. However, adoption of technologies in organization operations is occurring at a slower pace than expected and such delays will make an organization to miss opportunities and expose them to unfavorable competition (Barney, 2008).

### 2.3.4 Procurement policy

Procurement policy is a factor influencing performance. Nichols (2002) argues that procurement policy is one of the primary functions of procurement with a potential to contribute to the success of government operations and improved service delivery. It is a function that sets in motion the entire acquisition or procurement process of acquiring services in governments (Lambsdorff, 2007). Schooner and Whiteman, (2000) assert that the contribution of procurement policy in facilitating an efficient and effective performance in public sector organizations is generally undisputed in both developed

and developing countries. Its contribution can be at both central and local government levels of public sector management (Rogers *et al.*, 2007). Knight *et al.*, (2003) provide useful case descriptions and make brief mention of supply policy, but again, their attention is on supply policy as a lever for government reform. Others (Schooner & Whiteman, 2000) use “policies” when referring to principles such as transparency, probity, competition, and value for money. Again, the systems perspective would classify these principles as desired results (outputs or impacts) to be achieved through procurement policies. Such treatment of public procurement deflects attention from its policy aspect that determines the extent to which it contributes to desired outcomes.

### 2.3.5 Organizational performance

Performance is a quantified results or a set of obtained finding, just as it can refer to the accomplishments, execution or carrying out anything ordered or undertaken, to something performed or done, to a deed, achievement, or exploit, or to the execution or accomplishments of work. In the world of work, performance may be undertaken to mean either the way in which business is conducted or a successful outcome. Managers must be concern with each interpretation because both the processes and the outcomes affect organizational success. Performance is what the organization delivers to stakeholders in financial and operational terms. Organization Performance comprises the actual output or results of an organization as measured against its intended outputs (goals and objectives). (Andrews, 2014). According to Mutai (2015) procurement policies enable organizations to achieved transparency, efficiency and accountability in their operations. Organizational performance can be measured in terms of integrity, fairness, accountability and professionalism (Nyaboke, Arasa & Ombui, 2013).

### 2.4 Empirical review

Eadie, Perera, Heaney and Carlisle (2007) stated that e-procurement is a rapid efficient method of finding and connecting new sources, being a lean channel for communication. A lot of time is spend on paper invoicing in terms of writing, filing and postal communication but while in e-procurement, staff have sufficient time to engage on strategic issues of procurement The time wasted in moving from one town or country to another to look for a potential supplier or buyer is greatly reduced since with a click of a button, you can readily get the information in the internet. By extension, e-procurement leads to reduction in maverick buying. Maverick buying is when staff buys from suppliers than those with whom a purchasing agreement has been negotiated. Thirdly, Lower Administration costs: in his research, Rankin (2006) argued that e-procurement result in reduction in paperwork and this leads to lower administration costs. Fourthly, Reduction in procurement staff: since most of the procurement process is done electronically, the number of staff needed to facilitate the process reduces.

A study was carried out by Mohamed (2016) on an institutional analysis the case of Tanzania public procurement system. The scope of the study was limited to the analysis of the systemic challenges found in the macro, mezzo and micro institutional levels of the public procurement system. The study conducted 24 Delphi in-depth interviews with 24 case respondents. The study administered and collected questionnaires (five-point Likert) with 42 case respondents. Case respondents and data sources were found and accessed within and across the macro, mezzo, and micro Tanzania public procurement institutional levels. Data analysis was done through thematic analysis, content analysis, Delphi policy analysis, and descriptive analysis. The study critically analyses how systemic challenges can be used to improve the public procurement system performance. The study established that the inexistence of the procurement policy framework is real and is considered by many of the case respondents as the root cause of other systemic issues found in the Tanzania public procurement system. While the past review was done in Tanzania on the Institutional Analysis of Systemic Challenges on Public Procurement, the current study will focus on the impact of purchasing policy on organizational performance at KP Thika region.

A study was carried out by Mutai (2015) on the impact of procurement policies and procedures, to determine the relationship between procurement policies and procedures on supply chain performance and to determine the challenges faced in the implementation of procurement policies and procedure in commercial banks in Kenya. The research design involved a cross sectional survey of all commercial banks in Kenya. Data was collected using a questionnaire that was administered through drop and pick later method. The study established that most of the commercial banks in Kenya have in place procurement policies and procedures that have enabled them achieve transparency, efficiency and accountability in their operations. It was also clear that there was no significant relationship between procurement policies and procedures and supply chain performance represented by R2 value of 0.449 which translates to 44.9%. Thus a large

unexplained variance of 55.1% meaning there are a number of significant predictors not included in the model. It proved to be a challenge in getting respondents. The past study was done on the impact of procurement policies and procedures on supply chain performance in commercial banks in Kenya, while the present study will be done at Kenya power, Thika region.

## 2.5 Critical literature of the existing literature

The adoption of information technology in the procurement process has led to enormous benefits. For instance Eadie et al (2007) stated that e-procurement provides an effective communication between the suppliers and organizations. Further, e-procurement result in reduction in paperwork and this leads to lower administration costs (Eadie et al 2007). However, we realize that the adoption of information technology will lead to reduced number of employees and therefore many people will lose job opportunities. There is also the issue of security threats that arises as a result of information technology. There is need for the management of the organization to consider the current personnel available in the organization. In addition, the organization must ensure security measures are looked at to avoid losses that can affect the organization performance negatively.

Basi (2015) argued that suppliers have a large and direct impact on time-to-market for new products, technology, quality, and costs. A long-term supplier relationship will create value to customers, increase profits, improve efficiency of production operations, and increase market share. On the other hand, short-term supplier relationship would be: to improve productivity, reduce cycle time, and reduce inventory. It is therefore a fundamental aspect that KP Thika region should ensure that they maintain strong relationship with its suppliers in order to create lead time and reduction in cost of the product and service delivery.

Procurement planning plays an integral part of the budget processes. Therefore it is important to appropriately plan procurement and to integrate them in PPOA manual 2009. PPOA Manual (2009), stated that adequate planning and prioritization of needs by each procuring entity is an essential prerequisite to effective procurement and it will enable the management to allocate the scarce financial resources to meet the priority public services before less essential needs; and publication of realistic annual procurement plans allows the private sector to respond more effectively to the requirements and specifications of government, through investment in staff and equipment, manufacture and importing of goods, and financial planning. However, poor procurement planning cause poor organizational performance (Basheka, 2009). Therefore, there is need for the procurement planning at Kenya Power Thika Region in order to experience efficient and effective service delivery to their customers.

Nyaboke, Arasa and Ombui (2013) established that public procurement policy influences integrity most followed by fairness, accountability and professionalism in organizational. He further argued that public procurement policy maximizes level of service provision to a great extent. However, the procurement policies need continuous review so that to realize relevant performance. The study therefore recommends that the existing policies should be reviewed or strengthened so as to effectively govern the water sector procurement activities and processes.

## 2.6 Research Gaps.

Procurement practices are key in the enhancement of organizational performance. It has been evidently revealed that procurement practices are intended to enhance organizational performance through creating a need for adoption of information technology, procurement planning, supplier relationship and procurement policies. These procurement practices have recommended in improving the efficiency, effectiveness and accountability among organizations. Though the intended purpose could otherwise be a good track towards organizational performance, it is evident that procurement practices in Kenyan public sector have remained elusive. Moreover research on the impact of procurement practice on organizational performance remains inadequately done. This study will therefore seek to fill in this gap by examining the effect of procurement practices on performance at Kenya Power Thika region, Kenya.

## 3. RESEARCH METHODOLOGY

### 3.1 Introduction

This section presented the research design and methodology of the study. A research method is simply a technique of collecting data whose methods consists of either listening to subject, observing what people do and say or collecting and examining documents which human beings construct. The chapter therefore entails research design, target population,

sample and sampling techniques, data collection instruments, data collection procedures, pilot study and data analysis and presentation.

### 3.2 Research design

The study adopted descriptive and correlational research design. The reason for the choice of these two research designs is because they allow the study to determine the strength and direction of a relationship so that later studies can narrow the findings down and, if possible, determine causation experimentally. Descriptive survey is the method of research which concerns itself with the present phenomena in terms of conditions, practices beliefs, processes, relationships or trends (Salaria, 2012). Correlation research design helped in describing how procurement best practices impact on organizational performance at Kenya Power Company, Thika Region.

### 3.3 Target population

The target population of the study was 400 employees of Kenya Power in Central Kenya region working in Thika station. The respondents included: 5 top level managers, 45 middle level managers, and 350 lower level managers. Target population is summarized in Table 3.1.

**Table 3. 1: Target population**

Level of management	Target population
Top level managers	5
Middle level management	45
Lower level management	350
<b>Total</b>	<b>400</b>

Source: HR, KPLC Thika Region (2017)

### 3.4 Sample and Sampling Technique

#### • 3.4.1 Sampling Frame.

A sample frame is a small proportion of the population selected for observation and analysis (Creswell, 2012). The study will use the Yamane (1967) rule to determine the sampling population. The formula is as follows:

$$n = \frac{N}{1 + N(e^2)}$$

Where:

$n$  = sample size

$N$  = Target population

$e$  = precision error (5%) at 95% confidence level

Therefore,

$$n = \frac{400}{1 + 400(0.05^2)}$$

$$n = 200$$

In this case the study will select 2 top level managers, 23 middle level managers, and 175 lower level managers from the Kenya Power Thika Station. The sample size is shown in Table 3.2

**Table 3. 2: Sample size**

Category	Target population	Sample size
Top Level management	5	2
Middle management	45	23
Lower management	350	175
<b>Total</b>	<b>400</b>	<b>200</b>

Source: HR, KPLC Thika region (2017)



### 3.4.2 Sampling technique

Stratified proportionate random sampling technique was used to select the sample. According to Kothari (2012), stratified proportionate random sampling technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population. Stratification aims to reduce standard error by providing some control over variance. From each stratum the study used simple random sampling to select 200 respondents.

### 3.5 Data collection instruments

The study adopted structured questionnaires to collect data. Mugenda and Mugenda (2008), states that questionnaires give a detailed answer to complex problems. Additionally, questionnaires are a popular method to data collection in deduction because of the relative ease and cost-effectiveness with which they are constructed and administered. They give a relatively objective data and therefore, are most effective. The structured questionnaires was distributed to the 311 employees at Kenya Power, Thika region, Kiambu County

### 3.6 Data collection procedure

This consists of a series of actions or steps necessary to effectively carry out research and the desired sequencing of these steps, (Kothari, 2012). Prior to the commencement of data collection, the researcher sought permission from the management of Kenya Power Company Limited, Thika Station to engage staff in data collection. Additionally, the researcher obtained a authority letter from the Post Graduate School of JKUAT allowing the researcher to go to the field to collect data. Thereafter, because there was no training of the research assistants which took place because of limited financial resources I followed by distribution of the self-administered structured questionnaires to 200 sampled respondents. This process was concluded by collection of the filled questionnaires from the respondents. During the distribution of instruments, the purpose of the research was explained

### 3.7 Pilot study

Before the actual data collection, the pilot test was done. In accordance with (Kothari and Garg 2014) at least 10% of the sample size consisted of the pilot test. In this study, the questionnaire was pre-tested using a representative sample identical to, but not those to be included in the actual study, before administering it to respondents in a field setting. Such pre-testing is important as it may uncover ambiguity, lack of clarity or biases in questions wording, which should be eliminated before administering to the intended sample.

The pilot test helps in detecting potential problems in research design and instrumentation as well as helping to check whether the questions asked are intelligible to the targeted sample and ensure that the measurement instruments used in the study will be reliable and valid measures of the constructs of interest (Orodho, 2008). The suitability of the questionnaires of this study will be pre-tested by first administering it to about 38 respondents (10% of the sample size).

### 3.8 Data analysis and presentation

Data analysis is a process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making. (Oso & Onen,2009). The research will adopt descriptive statistics and inferential statistics to analyze quantitative data. Data will be analyzed using the statistical package for social sciences (SPSS) version 20.0 based on the questionnaires. The descriptive statistics will involve frequency distribution table, percentage, mean and standard deviation while the inferential statistics will be Pearson correlation analysis. The Pearson's correlation will be used to test for the relationship between the independent variables and the dependent variables.

#### 3.8.1 Model

The regression model was of the form;

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

Where, Y= Organizational performance

$\beta_0$  = Constant

$\beta_i$  = Regression coefficients

$X_1$  = Information technology (IT)

$X_2$  = Supplier relationships

$X_3$  = Procurement planning

$X_4$  = Procurement policy

$\varepsilon$  = Error term

## 4. RESEARCH FINDINGS AND DISCUSSION

### 4.1 Introduction

The study sought to establish influence of procurement practices on organizational performance of energy sector: a case of Kenya Power Company, Thika region. In particular, the study focused on procurement planning, supplier relationships, technology utilization and procurement policy. Largely, data analysis was conducted using descriptive statistics, correlation and regression model. Lastly, an overview of the results was obtained in the study were presented and discussed in this section.

### 4.2 Response Rate

From the findings in table 4.1; the study used a sample size of 200 respondents from which 156 filled in and returned the questionnaires making a response rate of 78%. This response rate was very good and representative to make conclusions for the study. According to Mugenda and Mugenda (2003), a response rate below 40% is unreliable, a response rate of 40%-50% is poor, a response rate of 50%-60% is acceptable for analysis and reporting, a response rate of 60%-70% is good and a response rate of 70%-80% is very good while response of over 80% is excellent.

**Table 4.1: Response Rate**

Response	Frequency	Percentage (%)
Returned Questionnaires	156	78.0
Unreturned Questionnaires	44	22.0
<b>Total</b>	<b>200</b>	<b>100.0</b>

### 4.3 Pilot Test Results

During the pilot study, two repeat mailings of the instrument were carried out to improve the overall response rate before sending the actual instrument to allow for pre-testing of the research instrument. Cronbach's alpha for each value was established by the SPSS application and gauged against each other at a cut off value of 0.7 which is acceptable according to Cooper and Schindler (2008). In this study all the values were above 0.7 which concludes that the data collection instrument was reliable. The reliability results for each measurement construct are presented in table 4.2.

**Table 4.2: Pilot Study Results**

Variable	No of Items	Cronbach Alpha
Procurement Planning	10	.862
Supplier Relationships	7	.706
Technology Utilization	10	.893
Procurement Policy	6	.701
Organizational Performance	4	.817

### 4.4 General Information

As part of the general information, the research requested the respondents to indicate their gender, level of education, age and work experience. The analysis relied on this information of the respondents.

#### 4.4.1 Gender of Respondents

From the findings in table 4.3, 60.25% of the respondents were male while 39.75% of them were female. This implies that there was no gender biasness in recruiting staff general staff of Kenya Power Company.

	Frequency	Percent
Male	94	60.25
Female	52	39.75
<b>Total</b>	<b>156</b>	<b>100.0</b>

#### 4.4.2 Age of Respondents

The findings in table 4.4 illustrate that 7.7% of the respondents are between 18-25 years, 20.5% of the respondents are between 26-35 years, 38.5% of the respondents are between 36-45 years, 17.9% of the respondents are between 46-56 years and only 15.4% of the respondents are above 56 years of age.

**Table 4.4: Age of Respondents**

Age Bracket	Frequency	Percent (%)
18 – 25 Years	12	7.7
26 – 35 Years	32	20.5
36 – 45 Years	60	38.5
46 – 56 Years	28	17.9
56 Years and above	24	15.4
<b>Total</b>	<b>156</b>	<b>100.0</b>

#### 4.4.3 Level of Education of Respondents

The findings in table 4.5 show that 6.4% of the respondents have their KCSE certificates, 10.9% of the respondents have attained their O' Levels, 57.1% of the respondents have attained their diplomas, 20.5% of the respondents have attained their bachelor's degrees and only 5.1% of the respondents had attained their masters degrees.

Academic Level	Frequency	Percent
KCSE	10	6.4
O'Level	17	10.9
Diploma	89	57.1
Degree	32	20.5
Masters	8	5.1
<b>Total</b>	<b>156</b>	<b>100.0</b>

#### 4.4.4 Work Experience

The question sought to identify the number of years the respondents have worked with the company. Majority, 48% of the respondents have a working experience of over 8 years, 32% have 6 to 8 years working experience, 16% of the respondents have over 3 to 5 years' experience, whereas a few, 4% have less than 0-2 years' experience as illustrated in the bar graph (figure 4.1). The distribution shows that the respondents have adequate working experience with the company and therefore possess the necessary and adequate knowledge and information.

### 4.5 Descriptive Statistics

#### 4.5.1 Information Technology

The findings in table 4.6 illustrates that the level of Automation is very high in the public organizations in Kenya as shown by a mean of 3.61 and supported by an average standard deviation of .441; there is use of efficient specific technology enhances quality of service in public organizations in Kenya as shown by a mean of 3.52 and supported by an average standard deviation of .432; technical complexity and design may compromise quality of service in Kenya as shown by a mean of 3.47 and supported by an average standard deviation of .401; the level of procurement systems usage

is very high in the public organizations in Kenya as shown by a mean of 3.48 and supported by an average standard deviation of .412; increasing integration in the public related work and other industries results in maintaining competitive edge among public organizations in Kenya as shown by a mean of 3.39 and supported by an average standard deviation of .389; Information technology enables lean channel for communication as shown by a mean of 3.43 and supported by an average standard deviation of .457; JIT reduced Operating cost in the public organizations in Kenya as shown by a mean of 3.47 and supported by an average standard deviation of .447; Information technology enhances reduction of inventory cost in the public organizations in Kenya as shown by a mean of 3.46 and supported by an average standard deviation of .400; Information technology enables e-purchasing in the public organization in Kenya as shown by a mean of 3.34 and supported by an average standard deviation of .553; Information technology allows for e-payments in the public organization in Kenya as shown by a mean of 3.39 and supported by an average standard deviation of .435

**Table 4.6: Information Technology Means and Standard Deviation**

STATEMENT	Mean	Std. Deviation
The level of Automation is very high in the public organizations in Kenya.	3.61	.441
Use of efficient specific technology enhances quality of service in public organizations in Kenya.	3.52	.423
Technical complexity and design may compromise quality of service in Kenya.	3.47	.401
The level of procurement systems usage is very high in the public organizations in Kenya.	3.48	.412
Increasing integration in the public related work and other industries results in maintaining competitive edge among public organizations in Kenya.	3.39	.389
Information technology enables lean channel for Communication	3.43	.457
JIT reduced Operating cost in the public organizations in Kenya.	3.47	.447
Information technology enhances reduction of inventory cost in the public organizations in Kenya.	3.46	.400
Information technology enables e-purchasing in the public organization in Kenya	3.34	.553
Information technology allows for e-payments in the public organization in Kenya.	3.39	.435

#### 4.5.2 Supplier Relationship

The findings in table 4.7 indicate that Supplier relationship encourages performance improvement and competitive advantage in the organization as shown by a mean of 3.61 and supported by an average standard deviation of .399; Supplier relationship enables communication and information sharing, learning and the involvement of workers in the buying firm's programs, and similarities in technologies and industry as shown by a mean of 3.46 and supported by an average standard deviation of .398; Collaborative relationship with mutual trust and cooperative relationship enhances quality of service in the public organizations as shown by a mean of 3.49 and supported by an average standard deviation of .402; Collaborative relationship enhances reduction of cost in the public organizations as shown by a mean of 3.39 and supported by an average standard deviation of .402; Partnership has high role in reducing lead-time which in turn results in maintaining competitive edge among public organizations as shown by a mean of 3.52 and supported by an average standard deviation of .423; Effective partnership relationship enhances service delivery as shown by a mean of 3.49 and supported by an average standard deviation of .402; Supplier relationship improves quality and delivery of services in the organization as shown by a mean of 3.47 and supported by an average standard deviation of .401; Supplier relationship facilitates lower cost as shown by a mean of 3.50 and supported by an average standard deviation of .423.

**Table 4.7: Supplier Relationship Means and Standard Deviation**

STATEMENT	Mean	Std. Deviation
Supplier relationship encourages performance improvement and competitive advantage in the organization	3.61	.399
Supplier relationship enables communication and information sharing, learning and the involvement of workers in the buying firm's programs, and similarities in technologies and industry	3.46	.398

Collaborative relationship with mutual trust and cooperative relationship enhances quality of service in the public organizations	3.49	.402
Collaborative relationship enhances reduction of cost in the public organizations.	3.39	.402
Partnership has high role in reducing lead-time which in turn results in maintaining competitive edge among public organizations.	3.52	.423
Effective partnership relationship enhances service delivery	3.49	.402
Supplier relationship improves quality and delivery of services in the Organization	3.47	.401
Supplier relationship facilitates lower cost	3.50	.423

#### 4.5.3 Procurement Planning

The findings in table 4.8 indicated that advanced procurement planning and optimization has a role in increasing productivity in the public organizations in Kenya as shown by a mean of 3.56 and supported by an average standard deviation of .398; Maintenance and implementation of procurement planning has a role on efficiency of public organization in Kenya as shown by a mean of 3.46 and supported by an average standard deviation of .302; Maintenance of effective procurement planning ensures continuous production process in the public organizations in Kenya as shown by a mean of 3.48 and supported by an average standard deviation of .300; Procurement planning estimates the cost and human and physical resources required by the organization which in turn as shown by a mean of 3.50 and supported by an average standard deviation of .378; The procurement planning does not take into accounts long term cost of ownership due to demand and the need to supply on time as shown by a mean of 3.47 and supported by an average standard deviation of .447; Procurement planning enhances cost reduction as shown by a mean of 3.43 and supported by an average standard deviation of .457; Procurement planning leads to proper management of public resources as shown by a mean of 3.46 and supported by an average standard deviation of .400; Procurement planning results into improved service delivery as shown by a mean of 3.39 and supported by an average standard deviation of .389; Procurement planning assist in the needs assessment as shown by a mean of 3.44 and supported by an average standard deviation of .563; Procurement enhances quality specification as shown by a mean of 3.39 and supported by an average standard deviation of .435

**Table 4.8**

STATEMENT	Mean	Std. Deviation
Advanced procurement planning and optimization has a role in increasing productivity in the public organizations in Kenya	3.56	.398
Maintenance and implementation of procurement planning has a role on efficiency of public organization in Kenya.	3.46	.302
Maintenance of effective procurement planning ensures continuous production process in the public organizations in Kenya	3.48	.300
Procurement planning estimates the cost and human and physical resources required by the organization which in turn	3.50	.378
The procurement planning does not take into accounts long term cost of ownership due to demand and the need to supply on time.	3.47	.447
Procurement planning enhances cost reduction	3.43	.457
Procurement planning leads to proper management of public resources	3.46	.400
Procurement planning results into improved service delivery	3.39	.389
Procurement planning assist in the needs assessment	3.44	.563
Procurement enhances quality specification	3.39	.435

#### 4.5.4 Procurement Policies

The findings of table 4.9 illustrate that Procurement policies enhance transparency in the public organizations in Kenya as shown by a mean of 4.51 and supported by an average standard deviation of .502; Procurement policies improve accountability in the public organizations in Kenya as shown by a mean of 4.48 and supported by an average standard deviation of .502; Procurement policies enhances efficiency in service delivery as shown by a mean of 4.52 and supported by an average standard deviation of .502; Procurement policies ensure compliance with the Public Procurement and

Disposal Act as shown by a mean of 4.47 and supported by an average standard deviation of .502; Procurement policies enhance the capacity of stakeholders in the public procurement process as shown by a mean of 4.50 and supported by an average standard deviation of .502; Procurement policies contribute to the success of government operations and improve service delivery as shown by a mean of 4.49 and supported by an average standard deviation of .502.

**Table 4.9: Procurement Policies Means and Standard Deviation**

STATEMENT	Mean	Std. Deviation
Procurement policies enhance transparency in the public organizations in Kenya.	4.51	.502
Procurement policies improve accountability in the public organizations in Kenya.	4.48	.502
Procurement policies enhances efficiency in service delivery	4.52	.502
Procurement policies ensure compliance with the Public Procurement and Disposal Act	4.47	.502
Procurement policies enhance the capacity of stakeholders in the public procurement process	4.50	.502
Procurement policies contribute to the success of government operations and improved service delivery	4.49	.502

#### 4.5.4 Organizational Performance

The findings in table 4.10 indicated that Service delivery is important as shown by a mean of 4.61 and supported by an average standard deviation of .489; Efficiency in organizational processes is essential as shown by a mean of 4.39 and supported by an average standard deviation of .491; Effectiveness in organizational activities is significant as shown by a mean of 4.56 and supported by an average standard deviation of .498; Continuous quality improvement enhances organizational improvement as shown by a mean of 4.49 and supported by an average standard deviation of .502.

**Table 4.10: Organizational Performance Means and Standard Deviation**

STATEMENT	Mean	Std. Deviation
Service delivery	4.61	.489
Efficiency	4.39	.491
Effectiveness	4.56	.498
Continuous quality improvement	4.49	.502

#### 4.6 Inferential Analysis

##### 4.6.1 Correlation Analysis

Correlation is often used to explore the relationship among a group of variables, in turn helping in testing for multicollinearity. That the correlation values are not close to 1 or -1 is an indication that the factors are sufficiently different measures of separate variables. It is also an indication that the variables are not multi-collinear. Therefore, absence of multicollinearity allowed the study to utilize all the independent variables.

**Table 4.11: Correlation Analysis**

Correlations						
		Organizational performance	Information Technology	Supplier Relationship	Procurement Planning	Procurement Policy
Organizational performance	Pearson Correlation	1	.862**	.876**	.870**	.877**
	Sig. (2-tailed)		.000	.000	.000	.000
	N		156	156	156	156
Information	Pearson	.862**	1	.762**	.798**	.748**

<b>Technology</b>	Correlation					
	Sig. (2-tailed)	.000		.000	.000	.000
	N	156		156	156	156
<b>Supplier Relationship</b>	Pearson Correlation	.876**	.762**	1	.786**	.754**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	156	156		156	156
<b>Procurement Planning</b>	Pearson Correlation	.870**	.798**	.786**	1	.766**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	156	156	156		156
<b>Procurement Policy</b>	Pearson Correlation	.877**	.748**	.754**	.766**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	156	156	156	156	
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

#### 4.6.2 Regression Analysis

The multiple regression analysis showed a strong relationship,  $R^2 = 0.632$  which showed that 63.2% of change in organizational performance of Kenya Power Company can be explained by a change of one unit of all the predictor variables jointly. This is shown on Table 4.12.

**Table 4.12: Model Summaryb of overall regression model**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798a	.637	.632	.16532

a. Predictors: (Constant), Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy

a. Dependent Variable: Organizational Performance

This result indicated that predictor variables such Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy influences the organizational performance of Kenya Power Company positively. The overall influence of this may lead to a substantial reduction in delivery reliability and customer service level. Further test on ANOVA showed that the significance of the F-statistic (24.007) is less than 0.05 since p value,  $p=0.01$ , as indicated in Table 4.13.

**Table 4.13: ANOVAa of overall regression model**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.197	4	5.549	24.007	.000b
	Residual	15.949	69	.231		
	<b>Total</b>	<b>38.146</b>	<b>73</b>			

a. Dependent Variable: performance

b. Predictors: (Constant), Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy

This implied that there was a positive significant relationship between independent variables and organizational performance of Kenya Power Company. Thus, Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy are important factors when improving organizational activities. Finally, the estimated multiple regression model to estimate performance was indicated in Table 4.14.

**Table 4.14: Coefficients<sup>a</sup> of Overall Regression Model**

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig.
1 (Constant)	.141	.056		2.503	.015
Information Technology	.275	.080	.387	3.423	.001
Supplier Relationship	.395	.093	.537	4.235	.003
Procurement Planning	.550	.104	.665	5.268	.002
Procurement Policy	.360	.090	.441	3.999	.004

a. Dependent Variable: Organizational Performance

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

$$Y = 0.141 + 0.275X_1 + 0.395X_2 + 0.550X_3 + 0.360X_4$$

Where; Y= Supply Chain Performance

0.141 = Constant

0.275 = Information Technology

0.395 = Supplier Relationship

0.550 = Procurement Planning

0.360 = Procurement Policy

The coefficients  $\beta_1 = 0.275$ ,  $\beta_2 = 0.395$ ,  $\beta_3 = 0.550$  and  $\beta_4 = 0.360$  are significantly different from 0 with p values 0.001, 0.003, 0.002 and 0.004 respectively and are less than  $p = 0.05$  as summarized in table 4.14.

## 5. SUMMARY, CONCLUSION AND RECOMMENDATION

### 5.1 Introduction

This section provides a summary of the major findings of the study. It also draw conclusions and recommendations for practice and suggestions for areas of further research based on the outcomes of this study.

### 5.2 Summary

#### 5.2.1 Information Technology

The findings revealed that the level of automation is very high in the public organizations in Kenya; there is use of efficient specific technology enhances quality of service in public organizations in Kenya; technical complexity and design may compromise quality of service in Kenya; the level of procurement systems usage is very high in the public organizations in Kenya; increasing integration in the public related work and other industries results in maintaining competitive edge among public organizations in Kenya; information technology enables lean channel for communication; JIT reduced operating cost in the public organizations in Kenya; information technology enhances reduction of inventory cost in the public organizations in Kenya; information technology enables e-purchasing in the public organization in Kenya; information technology allows for e-payments in the public organization in Kenya.

#### 5.2.2 Supplier Relationship

The findings reveal that supplier relationship encourages performance improvement and competitive advantage in the organization; supplier relationship enables communication and information sharing, learning and the involvement of



workers in the buying firm's programs, and similarities in technologies and industry; collaborative relationship with mutual trust and cooperative relationship enhances quality of service in the public organizations; collaborative relationship enhances reduction of cost in the public organizations; partnership has high role in reducing lead-time which in turn results in maintaining competitive edge among public organizations; effective partnership relationship enhances service delivery; supplier relationship improves quality and delivery of services in the organization; and supplier relationship facilitates lower cost.

### 5.2.3 Procurement Planning

The findings reveal that advanced procurement planning and optimization has a role in increasing productivity in the public organizations in Kenya; maintenance and implementation of procurement planning has a role on efficiency of public organization in Kenya; maintenance of effective procurement planning ensures continuous production process in the public organizations in Kenya; procurement planning estimates the cost and human and physical resources required by the organization which in turn; the procurement planning does not take into accounts long term cost of ownership due to demand and the need to supply on time; procurement planning enhances cost reduction; procurement planning leads to proper management of public resources; procurement planning results into improved service delivery; procurement planning assist in the needs assessment; and procurement enhances quality specification. The findings reveal that procurement policies enhance transparency in the public organizations in Kenya; procurement policies improve accountability in the public organizations in Kenya; procurement policies enhances efficiency in service delivery; procurement policies ensure compliance with the public procurement and disposal act; procurement policies enhance the capacity of stakeholders in the public procurement process; and procurement policies contribute to the success of government operations and improved service delivery.

### 5.3 Conclusion

From the findings of the study, it could be concluded that Technology Utilisation had a positive significant influence on Organizational Performance with a relatively smaller coefficient of determination of 86.2% which means much more need to be done on Technology Utilisation in order to optimize organisational performance. On Supplier Relationships practices it had a positive significant influence on Organizational Performance with a relatively larger coefficient of determination of 87.6% as compared for Technology Utilisation variable which means that management should put more effort on supplier relationship to obtain an optimum solution to organisational performance.

On Procurement Planning it had a positive significant influence on Organizational Performance with a relatively larger coefficient of determination of 87% as compared to Technology Utilisation and Supplier Relationships variable which means that management should put more effort on Procurement Planning to obtain an optimum solution to organisational performance. Since poor procurement can cost organisations to lose more cash than it can imagine

Lastly, on Procurement Policy, it indicates that it had a positive significant influence on Organizational Performance with a relatively largest coefficient of determination of 87.7% as compared to all study variables. which means that management should put more effort on Procurement Policy making and implementation to obtain an optimum solution to organisational performance. Since poor procurement policy worse to the organisation.

### 5.4 Recommendations

In the organizational performance management program, it is important for company personnel to focus on the higher value and more strategic suppliers since these suppliers contribute the greatest amount of risks. It often doesn't make economic sense to include low dollar value, one time business, or non-strategic suppliers in this type of program. By grouping these top supplier together and examining the company's relationships with them, some common attributes will become evident. These attributes of the relationship can be used to develop the areas and metrics with which to measure.

It is also important to work with the suppliers when developing these metrics and areas of focus. Some of the companies that are best at examining supplier performance continually interact with their suppliers, communicate with them frequently, and use a mutually agreed upon system of metrics. This is a more collaborative approach with suppliers and ensures that supplier know what is expected of them. They can also make business plans and take steps to meet the goals and objective that were set for them. The suppliers are also acutely aware of whether or not they have performed well or have performed poorly.

### 5.5 Areas for Further Study

From the findings, the R was 79.8% which means that the independent variables (Information Technology, Supplier Relationships, Procurement Planning, Procurement Policy) explained organisational performance to an extent of 79.8%. There are other factors which are not captured by the proposed model in this study which are captured by 20.2% which is not explained. Another study can be carried out to determine other factors explaining 20.2% of performance in view of the study context and scope. There are many factors influencing organizational performance in companies in the energy sector in Kenya which the researcher did not evaluate including quality, delivery, flexibility among others. Future research would focus on the strategic influence of these factors on organizational performance in firms in the energy sector. Additionally, there are many procurement practices that have an influence on management of organizations some of which the researcher did not focus especially tendering, sourcing, awarding, contracting, invoicing, reverse auctioning, among others. Future studies would focus on establishing the influence of these on organizational performance of firms in the energy sector.

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