EFFECTS OF PROCUREMENT RISK MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCE IN THE KENYAN ENERGY SECTOR

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ABSTRACT
Procurement practices integrate various firms’ operations and support functions, synchronizing production with new orders, purchasing with demand, scheduling and shipping with customer requirements. The procurement function in Kenya still faces challenges including poor implementation, non-compliance to procurement regulations, delays, untrained personal and inability to deliver the goods to the designated organizations. These procurement challenges have greatly affected the performance of organization, creating the need to correct such issues so as to improve organizational performance. The main objective is to assess the effects of procurement risk management practices on organizational performance in the Kenyan energy sector. The specific objectives include: To determine the effect of documentation on organizational performance in the Kenyan energy sector; To assess the effect of the supply chain framework on organizational performance in the Kenyan energy sector; To find out the impact of regulatory framework on organizational performance in the Kenyan energy sector and to determine the effect of separation of duties on organizational performance in the Kenyan energy sector. The study adopted descriptive research design and the Target population was 440 in the energy and petroleum firms listed at NSE. Stratified sampling was be adopted to obtain the sample size which was 209 staffs from energy companies listed at the NSE in Kenya. The study used Slovin’s formula: \( n = \frac{N}{1+N(e)^2} \) in sampling. Primary data was collected using a semi-structured questionnaire and the data was analyzed using descriptive statistics and inferential statistics was also be computed with the aid of regression analysis. Secondary data was collected using data collection sheet. The study findings was presented in frequency distribution table, pie charts, figures and graphs. Statistical Package Social Science and Descriptive statistics tool was used in analyzing the qualitative and quantitative data that was presented.
through pie charts, table and descriptive notes. Multiple regression model was used to show the relationship between the dependent and independent. A good response rate of 80% was realized. It was established that most of the firm’s risk management practices have positive impact on organizational performance. The study further adopted a regression analysis to determine the relationship between the variables at 5% confidence level of significance. The study findings showed that the four variables had a significant influence on organizational performance. The study recommended that a similar research should be conducted with an aim at investigating the effects of risk management practices on organizational performance with other variables or of other firms in other sectors, including the service industry in the Kenyan market. The study indicated that there has been limited amount of research on effects of risks management practices on organizational performance of energy firms listed in Nairobi stock exchange Kenya. Thus, the findings of this study serve as a basis for future studies on risk management practices. The inventory management practices and organizational performance of energy firms listed in Nairobi stock exchange in Kenya, has not been widely studied which presents gaps in African and Kenyan contexts.

Key words: Documentation, Supply Chain Framework, Regulatory Framework, Separation of Duties, Organizational performance

Background of the Study

Procurement risks are a common occurrence within a business unit or in an organization. Some of the most common procurement risks include delays in delivery, rise in costs, decrease in sales and production malfunctioning. The procurement risks exists in an organization whenever the supply market behavior, and the organization’s dealings with suppliers, create outcomes which harm company reputation, capability, operational integrity and financial viability (Trkman & McCormack, 2010).

In today’s world, the directors and executives in organizations are facing increasing expectations and demands from the shareholders, industry regulators, customers and other stakeholders that they must understand and manage the organizational risks and reduce chances of the risks occurring (Sodhi, Son & Tang, 2012). In risk management, the organizations do it in phases; the first is preparedness before the actual risk occurs; this is done by forecasting on the changes in the environment and market place. The second phase is quick response to limit the damages caused and lastly getting feedback after the risk has occurred, so as to be better equipped to handle future scenarios. Wieland and Marcus Wallenburg (2012) argues that the top management in an organization must ensure that there is effective management of the few risks that impact on the fundamental values of the organization and the risks that affect the day-to-day operations. It is also of value for the management to forecast the probability of risks occurring and the extent of its impact (Wieland & Marcus Wallenburg, 2012).

Procurement is deemed to be part of principles of management of plans Mori, Kobayashi, Samejima and Komoda (2013) that focus on effective achievement of performance efficient in public institutions as well as growth of the nation. In practice, when procurement process is well planned and implemented, it can act as an economic instrument for guaranteeing national development and overall improvement of social lifestyles of people (Mori et al., 2013).
Procurement practices integrate various firms’ operations and support functions, synchronizing production with new orders, purchasing with demand, scheduling and shipping with customer requirements (Osipova & Eriksson, 2011). Johnson (2014) looked at procurement strategy as conceptualized and defined in the introduction does not represent a radical departure from the traditional concept of purchasing strategy; the only difference is that Internet-based technologies are used as tools to carry out the firm’s purchasing and corresponding corporate strategies. Despite the explosion in its use, procurement is a relatively old phenomenon; therefore a sound definition for procurement strategy does exist. The construct, “procurement strategy” examined in this research represents a theoretical fusion of definitions of procurement and traditional purchasing strategy, which currently exist in the literature. Perhaps more fitting descriptions of strategic procurement are those inferred from discussions that strategic procurement relates to those senior executive decisions which determine the ‘make/buy’ option (Johnson, 2014).

Specific Objectives
This study was guided by the following objectives:

i. To determine the effect of documentation on organizational performance in the Kenyan energy sector
ii. To assess the effect of the supply chain framework on organizational performance in the Kenyan energy sector
iii. To establish the effect of regulatory framework on organizational performance in the Kenyan energy sector
iv. To determine the effect of separation of duties on organizational performance in the Kenyan energy sector

Literature Review
The Network Theory (NT)
The network theory was proposed by Johanson and Mattsson (1987). The theory contributes profoundly to an understanding of the dynamics of inter-organizational relations by emphasizing the importance of relationship between the parties, the build-up of trust through positive long-term cooperative relations and the mutual adaptation of routines and systems through exchange processes (Aksoy & Öztürk, 2011). Through direct communication, the relationships convey a sense of uniqueness, ultimately resulting in supply chains as customization to meet individual customer requirements. The parties gradually build up mutual trust through the social exchange processes. Network Theory is descriptive in nature and has primarily been applied in SCM to map activities, actors, and resources in a supply chain (Chicksand et al., 2012). The focus has been on developing long-term, trust based relationships between the supply chain members. Examples of issues include buyer-supplier relationships.

In network theory, markets are viewed as a system made up of relationships among various stakeholders including: customers, suppliers, and manufacturers (Chicksand et al., 2012). This is mainly meant to introduce competitive advantages as firms operate in a network. This is achieved through establishment of business relationships and partnerships for synergies (Aksoy & Öztürk, 2011). This theory supports the supply chain framework for efficient supply chain performance. It helps explain how organization’s
procurement teams need to relate with other stakeholders in the supply chain for effective
and efficiency in procurement management.

**Resource Based Theory**

Resource based theory was developed by Wenefeldt (1984), it is also called the Resource
Based Theory (RBT). It is a method of analyzing and identifying a firm’s strategic
advantages based on examining its distinct combination of assets, skills, capabilities and
intangibles as an organization. The RBV’s underlying premise is that a firm differs in
fundamental ways because each firm possesses a unique bundle of resources-tangible and
intangible assets and organizational capabilities to make use of those assets. Each firm
develops competencies from these resources, and when developed especially well, these
become the source of the firm’s competitive advantage (Pearce and Robinson, 2007).
Barney (1991) suggests that firms succeed through developing resources that provide
unique sources of competitive advantage.
The knowledge based literature of the firm fosters and develops the resource based theory
in that it considers knowledge to be the most complex of an organization’s resources
(Alavi & Leidner, 2001). According to resource-based theory, the human resources are a
main source to improve an organizational growth. Thus the theory is applicable in this
study in ensuring that the human factor in an organization is well treated as a productive
unit of the organization. Creating favorable overtime schedules is one way in which the
management can use in communicating to the staff and ensuring that expectations are
understood and implemented.

**Theory of Legitimacy**

This theory affirms that institutions have the command to explain their operations to their
respective key actors, especially if it is a public entity should state its benefits to the
(LT) is a generalized assumption or perception that the activities of any organization
which are workable, appropriate and viable in system which are based on social beliefs,
values, definitions and norms. The notion of LT sturdily proposes that the social
agreement which is between the government and the public universities is in position of
being eliminated.

Legitimacy theory posits that organizations continually seek to ensure that they operate
within the bounds and norms of their respective societies and the set standards by either
national or local administrative governments (Hybels, 1995). In other words, legitimacy
in our theory is not based upon the finding-out which policy is optimal as much as it
is about why the selected policy is legitimately claimed to be so. In adopting a legitimacy
theory perspective, a company would voluntarily report on activities if management
perceived that those activities were expected by the communities in which it operates
(Deegan 2002). Legitimacy theory relies on the notion that there is a ‘social contract’
between a company and the society in which it operates hence this theory is relevant as it
looks at documentation and its effect on organizational performance.
Legitimacy is not trivial to obtain but is always possible if there is an agreement on the
principle by which the collective choice was governed (Wilmshurst & Frost, 2000). The
study therefore employed legitimacy theory to be able to examine whether the
procurement officers make disclosure of practice of procurement in order to build a better
status with the respective government, key players together with the entire society (Suchman, 1995). Managers may choose to legitimize and implement procurement practices on the understanding of their states or involved sections (Hybels, 1995). Nevertheless, different public managers seem to differ ideally on the public expectation and their respective local authorities or agencies and even departments as the society views them to comply with their expectations. This theory supports the variable on regulatory framework on the importance of running legitimate businesses that comply with the legal provisions.

**Purchasing Portfolio Theory**

This theory was introduced by Kraljic (1983) for the use in purchasing and supply management. Kraljic (1983) urges that ‘purchasing must become supply management. In this context, Kraljic (1983) developed a convenient portfolio approach for the determination of a comprehensive strategy for supply. Kraljic’s approach includes the construction of a portfolio matrix that classifies purchased products and services on the basis of two dimensions: profit impact and supply risk (Gelderman, 2000). Each of the two categories requires a distinctive approach toward supplier management. Leverage items allow the buying company to exploit its full purchasing power, for instance through tendering, target pricing and product substitution (Lilliecreutz & Ydreskog, 1999). Routine items are of low value, are ordered frequently and therefore cause high transaction costs.

Therefore, strategies are aimed at reducing transaction costs through category management in procurement solutions. Bottleneck items cause significant problems and risks that should be handled by volume insurance, vendor supplier control, and safety stock and backup plans (Gelderman, 2000). In some cases, a search for alternative suppliers or products is needed. Strategic items require a more collaborative strategy between both the buyer and the seller. The general idea of Kraljic’s model is to minimize supply risk and make the most of buying power (Lilliecreutz and Ydreskog, 1999). This theory supports the variable of documentation for the importance of cost computation on different ventures in procurement for effectiveness and efficiency.
Research Methodology
Research Design
The study adopted a descriptive research design. According to Creswell (2012), this design is concerned with finding out information in a manner as to understand, the what, how and where of a phenomenon. In the case of this study, the descriptive design is chosen as it can help the researcher to generalize the study findings to a large population. It is appropriate as it helped the respondents the procurement risk management practices that their organization has adopted and how these practices have affected the performance at their organization. Furthermore, this design allows one to collect quantitative data which can be analyzed quantitatively using descriptive and inferential statistics. The descriptive research design has been deemed the best strategy to fulfill the objectives of this study (Creswell 2013).
**Target Population**

Population is where specific information pertinent for the study to sought from. According to Kothari (2004), a population is a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The population for this study was 440 which included all the senior and middle level managers from the energy companies listed at the NSE. The study targeted senior managers and middle level managers from the Energy companies listed at the NSE.

<table>
<thead>
<tr>
<th>Category</th>
<th>Target Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Kenya</td>
<td>102</td>
</tr>
<tr>
<td>Kenol kobil</td>
<td>102</td>
</tr>
<tr>
<td>KenGen</td>
<td>114</td>
</tr>
<tr>
<td>Kplc</td>
<td>122</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>440</strong></td>
</tr>
</tbody>
</table>

Source: (NSE 2017)

**Sample Size**

The study adopted stratified sampling whereby the staffs were be grouped into two strata i.e. top management staffs and the middle level staffs.

In the selection of the sample size, the following formula used (Slovin’s formula:(2008) and the final sample size of the study was 209 respondents.

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

Where;

- \(n\) = Sample size
- \(N\) = total population
- \(e\) = Error of tolerance

As such, the sample size was;

\[
n = \frac{440}{1 + 440 \times 0.05^2}
\]

\[
n = \frac{440}{2.1}
\]

**n=209**

The confidence level of 95% thus giving a margin error of 0.05

Stratified random sampling was the most suitable method to be used in the selection of the respondents in each sub group while simple random sampling was used to select respondents in the strata with the help of stratified sampling formula ( \( n_i = n/N \times N_i \) )

Where;

- \(n\) = Total Sample Size
- \(N\) = Total Target Population
- \(N_i\) = Target sample size per level

TOTAL =209/440*102=48
KENOL KOBIL =209/440*102=48
KENGEN =209/440*114=55
KPLC =209/440*120=57
Sample Size

<table>
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<tr>
<th>Category</th>
<th>Target Population</th>
<th>Sample Size</th>
</tr>
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<td>Total</td>
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<td>48</td>
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<tr>
<td>KenGen</td>
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<td>55</td>
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<td>Kplc</td>
<td>122</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>440</td>
<td>209</td>
</tr>
</tbody>
</table>

Data Collection Instrument
This study collected primary and secondary data. Primary data was collected using a semi-structured questionnaire because they are easy to administer and eases the data analysis process, Watson (2010). According to Kombo and Tromp (2006) data collection is the gathering of specific information aimed at proving or refuting some facts. This study utilized a questionnaire to collect primary data as used in various previous research projects. Primary data is that research data that is collected for the first time by the researcher hence original in character (Kothari, 2004). The structured questionnaires was used due for ease and convenience in distribution collection, analysis and overall cost-effectiveness in terms of resources utilization and mobilization. Secondary data was collected from financial statements of the Company over a period of five years. The specific secondary data to be collected was return on investments and growth in customer numbers.

Data Collection Procedure
This study was collected primary data for purposes of making inferences, conclusions and recommendations. Primary data, according to Kothari (2008) is data that is collected for the first time by the researcher hence the data collected is original. The questionnaires was administered through a drop and pick letter method. Questionnaires was tailored and administered to respondents. This was ensured that the target respondents have been allowed humble time to fill in the questionnaire without interfering with their normal work duties.

Pilot Testing
According Blumberg, Cooper and Schindler (2014) pilot testing is conducted with the sole purpose of detecting any inherent weaknesses in the design of research instruments. It is therefore an activity that enables the identification of flaws, weaknesses or even limitations in research instruments hence enabling the researcher to make necessary changes and corrections before final study implementation (Kothari, 2004). In this regard, the study conducted a pilot study on 10 employees which was 5% of the sample size. This enhanced a thorough testing of reliability and validity of data collection instruments. Pilot tests assess the reliability and validity of the data collection instrument hence enabling the researcher to amend on time the adopted research instruments to facilitate accurate final data collection.
Validity of Instrument
Mugenda and Mugenda (2008) opine that research instruments validity is the extent to which study results obtained from data analysis actually represents the study phenomenon. In essence, it is the degree to which instituted tests measure what they are intended to measure. Lindner, Murphy and Briers (2001) further deduced that validity is the degree to which study sample of test items actually fully represent desired contents that they are designed to measure. This study engaged a professional expert in the particular field of interest so as to obtain opinion to be used to ascertain the validity of the designed research instruments.

Reliability of Instrument
Cronbach (1951) deduced that reliability is basically the consistency of measurement items. Reliability is essentially the degree to which designed research instruments measures in the same manner each and every time under the same condition with the same subjects. A measure is deemed to be reliable if it provides consistent results with each repetition. The study adopted the internal consistency measure referred to as the Cronbach’s alpha ($\alpha$). Cronbach’s alpha was the most suitable method of measuring stability. $\alpha = \frac{k \times c^-}{\nu^- + (k-1) c^-}$; where $k$ refer to scale items, $c^-$ refers to average of all covariance while $\nu^-$ is the average variance of each item.

As per Cronbach’s Alpha, the coefficient $\alpha$ reliability is between 0 and 1 in assessing the overall reliability. With high covariance items, $\alpha$ approach 1 while other items in the scale reaches infinity. Precisely, when $\alpha$ coefficient is higher, more items in the scale share the covariance and measure the same concepts. Concisely, if the entire items in the scale are independent then $\alpha=0$. The recommended value of 0.7 was used as a cut-off for reliability. It is a general form of the Kunder-Richardson (K-R) 20 formula used to assess internal consistency of an instrument based on split-half reliabilities of data from all possible halves of the instrument. Cronbach’s alpha is usually interpreted as the mean of all possible split-half coefficients. This is a co-efficient that measures internal research instruments reliability. A co-efficient value above 0.7 implies that the research instruments are reliable hence the researcher can proceed to using them in the final stage. It reduces time required to compute a reliability coefficient in other methods (Yin, 2009).

The Kunder-Richardson (K-R) 20 formula is as below:
The Kunder-Richardson (K-R) 20 formula is as below:
$$KR_{20} = \frac{(K)}{(S_2-\Sigma s_2)}\frac{(S_2)}{(K-1)}$$
Where
$KR_{20}$=Reliability coefficient of internal consistency
$K$= Number of items used to measure the concept
$S_2$= Variance of all scores
$S_2$=Variance of individual items.

Data Analysis and Presentation
Collected research instruments was coded before entry into statistical software for analysis. Data cleansing was also be carried out before coding can actually commence. Descriptive statistics was computed whereby frequencies, percentages, means and standard deviations was clearly shown in the form of both tables and figures. Inferential
statistics was also computed with the aid of regression analysis. The tabulated data was analyzed using descriptive and regression statistics with the Statistical Package for Social Sciences (SPSS 21.0).

A regression model was also be used to determine the nature of the relationship between dependent and independent variables. The regression mode to be adopted is:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon \]

WHERE:

- **Y** = Organizational Performance
- **X_1** = Documentation
- **X_2** = Supply Chain Framework
- **X_3** = Regulatory Framework
- **X_4** = Separation of Duties
- **β_0** = constant,
- **β_i** = Regression Coefficients
- **ε** = Error Term

The study findings was presented in frequency distribution table, pie charts, figures and graphs.

**Results**

**Introduction**

This chapter presents the findings of the study and comprises of three main sections. The findings sections presents the findings on demographic characteristics of the respondents; the second section presents the descriptive results while the final sections presents results on inferential statistics which include correlations and regression analysis.

**Response rate.**

The study administers a total of 209 to selected individual that work in the procurement department at energy firms. A total of 168 questionnaires were dully filled and returned which represents a response rate of 80%. According to Deegan (2002), a return of 50% is acceptable to analyze and publish, while 60% is good and above 70% is very good. The high response rate of 80% was attributed to personal commitment and regular follow up.
Pilot Test Results
Presenting of the research instrument was done to ten individual respondents which were randomly sampled. The aim of the pilot study was to enhance reliability and validity of the data to be collected. The questionnaires were then analyzed to establish the reliability of the research instruments.

Reliability Test Results.
The reliability results indicated that all the variable constructs had Cronbach’s Alpha above the minimum acceptable reliability coefficient 0.7 which implied good internal consistency. Based on analysis, all items measuring various variable were accepted and considered for the study. According to Creswell, (2013) the closer the Cronbach’s Alpha the higher the reliability. Concisely, a value of a least 0.7 is recommended.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach’s alpha</th>
<th>Number of items</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>0.823</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Supply chain framework</td>
<td>0.731</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Regulatory framework</td>
<td>0.821</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Separation of duty</td>
<td>0.764</td>
<td>5</td>
<td>Reliable</td>
</tr>
<tr>
<td>Organize performance</td>
<td>0.843</td>
<td>5</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Validity Test Results
To ensure content validity was done, the research did a thorough review of literature and identified items that required to measure the concepts, and to also ensure that the questions covered all areas of the study. The supervisor who went through the questionnaire to ensure it was free from ambiguity also checked validity. This enable the research to assess validity of instruments including clarity, relevance, and interpretation of questions and if the respondents could answer the questions without difficulties.

Demographic Results
The study was interested in the demographic characteristics of the respondents. This was aimed at describing the sample that was used in this study. The study opt to establish the age bracket of the respondents, gender of the respondents and there highest education qualifications.

Age of the Respondents
The findings on the age bracket of the respondent revealed that 44.3% of the respondents were between 40 and 49 year, 31.8% were over 50 years, 15.9% were between 30 and 39 years while those below 30 years were the least 8%. The findings implied that individuals dominated the departments of energy firm were over the age of 40 years. This could be attributed to the need by the energy firms to hire experience individuals to manage the procumbent responsibilities Dada (2013) also reported that there a positive effect of prior related experience on task relevant knowledge and skill is attenuated by higher levels of experience within the current firm.
Age of respondents

Gender of the respondents

The findings on demographics characteristics of the respondents further showed that male were 67% while the female were 33%. The findings implied that the energy firms was working of achieving the two third gender rule as stipulated in the constitution. The findings further implied that women were increasing taking up jobs in the various state departments in all the levels of government. These finding clearly showed significance improvement. Gelderman, (2000) reported that the fact that female labour force participation in the modern sector has remained below 30% over the last several years to men who hold a disproportionately larger share of modern to men sector jobs. Giannachi (2015) also found that women are more ethical in performing their duties than men. The presence of women enhances the ability to run healthy business.
Gender proportion.

Highest level of Education

The finding on the level of education of the respondents showed that 58% were graduated, 23.9% had master’s degree level of education, 11.4% were diploma holders, while those with certificate and PhD were equal at 3.4%. These findings implied that majority of the respondents were well educated and this could be because of the nature of the work required highly professional individuals. Majority of the individuals with certificate and diploma had acquired from professional examination bodies. (Kilonzo, 2014) findings also confirmed the educational qualifications have significant bearing on job performance. The higher the education level the more are the effects of education and skill on job performance. As such people’s ability to understand and use advanced technology is determined by the level of their education. Educated workers tend to be more responsive in receiving instructions and doing new tasks and easily adopt new technology while increases their ability to innovate and improve job performance.
Level of Education
Descriptive results of the study variables.
This section provides descriptive results on how respondents responded to the statement in the questionnaire. The section presents the findings of descriptive statistics based on the research objectives.

Documentation
The first objective of the study was to determine the effect of documentations on organizational performance of the energy sector. This section presents the descriptive results as provided by the respondents. The findings showed that 46.6% and 22.7% of the respondents agreed and strongly agreed that the documents were centralized stored for easy retrieval when needed at the energy firms thus affected organizational performance. Those who disagreed and strongly disagreed were 6.8%, 10.8% and neutral was 13.6%. Further the mean of 3.65 confirmed that the majority of the respondents agreed with the statement.

The study further sought to establish whether information sharing affected the performance of procurement function and entire organizational performances at energy firms, the finding showed that 38.6% strongly agreed, 33.0% agreed, 15.9% were neutral, 8% strongly disagreed 4.5% disagreed. The statement had a mean response of 3.9, which confirmed that most of the respondents leaned towards agreeing. The study further sought to establish whether procurement department had effective future referencing techniques. The findings revealed that 22.7% and 39.8% agreed and strongly agreed, 13.6% disagreed, 11.4% strongly disagreed, 12.5% neutral the statement had a mean response of 3.66 indicating that majority of the respondents agreed and strongly agreed with the statement.

The study was also interested in finding out whether the energy firms had standard feedback channels for tracking performance in place. The results showed that 35.2% and
29.5% agreed and strongly agreed, 13.6% strongly disagreed, 11.4%, disagreed, 10.2% neutral respectively. The findings showed that the statement had a mean of 3.56 which further confirmed that majority of the respondents agreed and strongly agreed.

The study was also conducted to find out whether the energy firms had well-structured documentations that correspond to the company’s changing environmental response. The findings showed that 39.8% and 23.9% agreed and strongly agreed respectively. Those who disagreed were 14.8% while 21.6% of the respondents were neutral.

The overall mean for all the statements was 3.68 which confirmed that majority of the respondents felt that the energy firms had put in place documentation elements to manage procurement process thus affecting organizational performance.

The findings implied that the documentations indicators in the energy firms listed in Nairobi stock exchange have significant impact on the organizational performance on these firms. Blumberg et al (2014) findings revealed that effective and efficient accountability, adoption and ethics in handling procurement documents is very vital in the organizational processes. Similarly, Okonjo, (2014) study concluded that information sharing and effective communication channels controls affected performance of an organization.

**Inferential statistics Results**

This section presents results of the correlation and regression analysis. These test were conducted to further establish the association and relationship that exist between the independent variables and dependent variable.

**Correlation Test Results**

The researcher investigated between the dependent variable and the independent variables using the correlational coefficient matrix as recommended by Annan et al (2013) as shown in table 4.7 below

The findings in table 4.7 indicates that the correlation between documentations and organizational performance at energy firm was 0.517 with a corresponding p value of 0.000. The correlation coefficient was therefore significant and positive implying that if documentation elements increase the organizational performance at energy firm also increases. The findings concur with Ngatia & Chirchir (2013) findings who also revealed that accountable documentation enhances procurement process of the firm to great extent.

The study therefore recommends that adequate documentation should be put in place to facilitate easy retrievals of documents when needed.

The results further revealed that the correlation between supply chain framework and organizational performances at energy level was 0.567 with a corresponding p value of 0.000. The correlation coefficient was also significant and positive which implied that an increase in supply chain framework increases the organizational performance at energy firm. This finding conforms to those of Njorge & Ngugi (2016) who found out that there is a strong relationship between supply chain framework and organizational performance; therefore, the study concluded that the presence of a supply chain framework portfolio positively affects organizational performance in institutions.

The findings also indicate that the correlation between regulatory framework practices and organizational structure at energy firm was 0.495 with a corresponding p value of 0.000. The correlation coefficient revealed a significant and positive association implying
that if regulatory framework practices increase the organizational performance also increases. Okombe (2012) also emphasizes that the scope of regulatory framework is determine whether the organization’s control and governs processes as designed and represented by management, is adequate and functioning in a manner which ensures that risk are appropriate identified and managed.

The finding results indicate that the correlation between separation of duties and organizational performance at energy firms was 0.517 with a corresponding p value of 0.000. The correlation coefficient revealed a significant and positive association implying that increase in separation of duties increases the organizational performance. According to Sadgrove (2016), transparent and impartial allocation of duties promotes accountability. Similarly, Walker & Jones (2012) argued that ineffective monitoring of activities in the firm, lack of task control techniques and lack of accurate and timely allocation of tasks and critical information to various specialists for decision making resulted to weak performance of allocated duties.

### Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Documentation</th>
<th>Supply chain framework</th>
<th>Regulatory framework</th>
<th>Separation of duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>Pearson</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>correlation</td>
<td></td>
<td></td>
<td></td>
</tr>
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<tr>
<td></td>
<td>Pearson</td>
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<td>0.460</td>
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</tr>
<tr>
<td></td>
<td>Pearson</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Separation of duties</td>
<td>Sig</td>
<td>0.421</td>
<td>0.318</td>
<td>0.302</td>
</tr>
<tr>
<td></td>
<td>Pearson</td>
<td>0.000</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Organizational</td>
<td>Sig</td>
<td>0.517</td>
<td>0.567</td>
<td>0.495</td>
</tr>
<tr>
<td>Performance</td>
<td>Pearson</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

N = 167

Correlation is significant at the 0.01 level (2-tailed)

### Multivariate Regression Analysis

In order to establish the statistical significance of the hypothesized relationships, multiple linear regression was conducted at 95 percent confidence (α=0.05). The result are presented in table 4.8. The findings revealed a relationship R=0.678, indicating a strong positive association between documentation, supply chain framework regulatory framework, separation of duties and organizational performance. R² =0.548 indicate that 54.8% of variation in the organizational performance can be explained by documentation, supply chain framework, regulatory framework and separation of duties.
Multivariate Regression summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R^2</th>
<th><code>Adjusted R^2</code></th>
<th>Std. error of estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.678</td>
<td>0.548</td>
<td>0.507</td>
<td>0.40145</td>
</tr>
</tbody>
</table>

The result of ANOVA test show that the F value is 31.951 with a significance of p value =0.000 which was less than 0.05, meaning that there is a significant relationship between documentation, supply chain framework, regulatory framework and separation of duties and organizational performance. The ANOVA statistics at 5% level of significance shows that the value of F calculates(F computed) is 31.951 and the value of F critical (F tabulated) at 4 degrees of freedom and 83 degrees of freedom at 5% level of significance is 2.482. F calculated (F computed) is greater than the critical (F tabulated) (31.951>2.482), this showed that the overall model was statistically significant at 5% significance level.

Analysis of variance (model significance)(ANOVA)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regression</td>
<td>32.065</td>
<td>4</td>
<td>8.016</td>
<td>31.951</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>20.804</td>
<td>163</td>
<td>0.251</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>52.869</td>
<td>167</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. dependent variable: Organizational performance
b. Predictors: (constant), separation of duties, regulatory framework, documentation, supply chain framework.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std error</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(constant)</td>
<td>0.724</td>
<td>0.283</td>
<td>2.558</td>
<td>0.000</td>
</tr>
<tr>
<td>Supply chain framework</td>
<td>0.241</td>
<td>0.062</td>
<td>3.887</td>
<td>0.015</td>
</tr>
<tr>
<td>Regulatory framework</td>
<td>0.152</td>
<td>0.064</td>
<td>2.375</td>
<td>0.027</td>
</tr>
<tr>
<td>Separation of duties</td>
<td>0.149</td>
<td>0.064</td>
<td>2.401</td>
<td>0.026</td>
</tr>
<tr>
<td>Documentation</td>
<td>0.136</td>
<td>0.065</td>
<td>2.092</td>
<td>0.031</td>
</tr>
</tbody>
</table>

a) Dependent Variable: organization performance.
The multiple Model Y=β₀+ β₁X₁+ β₂X₂+ β₃X₃+ β₄X₄, therefore became, Organizational structure =0.724 + 0.241 (supply chain framework) + 0.152(regulatory framework) + 0.149(separation of duties) + 0.136(documentation)
The coefficient of documentation was ($\beta=0.136$, $\text{sig}=0.031$, $<0.05$) shows a statistically significant relationship between documentation and organizations performance. The results implied that a unit increase in documentation would result to an increase of 0.136 units in organizational structure. Similarly, Ayom (2013) study concluded that documentation affected performance of an organization. It was therefore recommended that the implementation of documentation system to ensure that there is information sharing, feedback is provided within the organization thus this will improve the organization performance.

The coefficient of supply chain framework was ($\beta=0.241$, $\text{sig}=0.015$, $<0.05$) shows a statistically significant relationship between supply framework and organizational performance. The results implied that unit increase in customer relationship management would results to an increase of 0.241 units in organizational performance. This finding conforms to those of Chicks and (2012) who found out that there is a strong relationship between supply chain framework and organizational performance, therefore the study conclude that the presence of effective customer relationship and outsourcing positively affects organizational performance in an organization.

The coefficient of regulatory framework was ($\beta=0.152$, $\text{sig}=0.027$, $<0.05$) shows a statistically significant relationship between regulatory framework practices and organizational performance. The results implied that a unit increase in regulatory framework practices would results to an increase of 0.152 units in organizational performance. Deegan (2002) also emphasized that the scope of regulatory framework is to determine whether the organization’s control and governance process a designed and represented by management, is adequate and functioning in a manner which ensures that risk are appropriately identified and managed. According to Coglianese (2012) transparent fiscal management polices promote accountability. Similarly, Chicksand et al (2012) argued that ineffective public expenditure monitoring, lack of budget ownership and control, lack of broad based budgeting, lack of accurate and timely financial information for decision making resulted to weak compliance with financial regulation in the procurement sector.

The coefficient of separation of duties was ($\beta=0.149$, $\text{sig}=0.026$, $<0.05$) shows a statistically significant relationship between separation of duties and organizational performance. The results implied that a unit increase in distinct job descriptions, workflow controls an integration of internal controls would results to an increase of 0.149 units in organizational performance. Segregation of Duties (SOD) is a basic fundamental block of sustainable risk management and internal controls for a business. The principle of separation of duties is based on shared responsibilities of a key process that disperses the critical functions of that process to more than one person or department. Without this separation in key processes, fraud and error risks, are far less manageable (Anthony G,2011).
Summary of the findings
This section summarizes research findings based on key objectives; to determine the effects of procurement risk management practices on organizational performance in the Kenyan energy sector. All the variables, that is, documentation, supply chain framework, regulatory framework and separation of duties were found to have effect on firm organizational performance.

Documentation
The research sought to determine from the respondents the extent to which they agree firms implemented the documentations elements in an effort to improve organizational performance in the energy sector. From the research findings, majority of the respondents indicated that they agreed that the firm has formally introduced effective consultation on issues relating to information sharing, the firms had formally integrated effective feedback performance, the firm had also formally implemented use effective future referencing process. This study reveals that there was formal introduction of documentation elements into procurement, the use of adequate and effective feedback on the performance, the designing of effective future referencing techniques and effective information sharing methods. According to the regression equation established, documentation is statistically related to the organizational performance.

Supply chain framework
Majority of the respondents indicated by an agreement that the firms had formally introduced. Supply chain framework that minimize material defectiveness. The firms had formally introduced usage of effective outsourcing and collaboration among the stakeholders to avoid maverick buying. Firms had also formally introduced use of customer relationship management techniques to enhance long partnership and good relationship among the key stakeholders. This implies that majority of the firms have started recognizing the role of supply chain framework on enhancing organizational performance with other firms in the energy firms. According to the regression equation established, supply chain framework is statistically related to the organizational performance.

Regulatory framework
From the results, majority of the respondents indicated by an agreement that the firm had formally introduced effective cooperate polices rules and regulations on the; the firm had formally implemented route planning and effective inspection procedures to avoid defective items being accepted in the organization, the firms had also formally implemented checklist and adequate counting strategy that ensures that the right quality of products are received in the firms. This study tends to agree with this concept since the firms which have formally introduced inventory management practices carry their operations more efficiently. According to the regression equation established, material receipt control is statistically related to organizational structure.

Separation of duties deviation controls
From the research findings, majority of the respondents indicated by agreeing that; the firms had integration of internal controls as an important element in its organizational
structure; the firms incorporated firm supplier compliance policies as a key factor in its impact assessment on the quality of products ordered and those supplied to ascertain whether there is diversion; the firms took into account the influence of its supplier activities and the general communication with the supplier; This study has established that firms have separation of duties deviation controls as an important element in their organizational structure. The study also revealed that the firms accept the use of rules and policies to shape the conduct of the suppliers. Similarly, the firms invest in the supplier through effective and efficient communications as an advocacy for efficient organizational structure. According to the regression equation established, separation of duties deviation control is statistically is correlated to organizational structure.

Conclusions
The study made conclusions per the objective based on the summary findings. The study found that documentation positively and significantly affects organizational performance. Therefore concluding that an increase in documentation systems practices including information sharing, feedback on performance future referencing, record keeping) will lead to a significant increase in organizational performance at the energy firms in Kenya.

The study found that Supply chain framework positively and significantly affects organizational performance. An increase in supply chain framework practices including outsourcing and collaboration, customer relationship management, organization integration, coordination will lead to a significant increase in organizational performance at the energy firms in Kenya.

The study concluded that regulatory framework positively and significantly affects organizational performance. Therefore an increase in regulatory framework practices including effective corporate policies, national policies on procurement leads to a significant increase in organizational performance at the energy firms in Kenya.

The study found that Separation of duties positively and significantly affects organizational performance. Therefore an increase in separation of duties practices including integration of internal controls; workflow controls, distinct job descriptions) will lead to a significant increase in organisational performance at the energy firms.

Recommendations
In the light of above findings, some pertinent recommendations can be made. These recommendations are geared towards enhancing the effective and efficient supply chain framework with a view to improving the performance of procurement function. This study recommends the following;

Documentation
Energy firms should embrace expertise in formulation of documentation at early stages of materials design. User departments should always be involved and consulted in development of documentation. The documentation should always be reviewed to meet requirements for use and purpose. This will improve the performance of procurement function as it will be able to meet the requirements of users and also reduce disputes among suppliers.
Supply chain framework
Energy firms should adopt the technique of keeping the minimal amounts of inventories. These should be done by having a definite automated inventory control system, improving the production scheduling, having flexible manufacturing processes and adoption of best supplier sourcing technique to ensure inventories are held and controlled at suppliers’ premises. This will aid in improving procurement function performance as much capital will not be tied up in acquired inventories which ultimately affect cash flows.

Regulatory framework
The receiving process of materials coming into the firms should be effectively and efficiently controlled through first ensuring that the receiving bay or section is at most proximal location. Capital structure should be used for handling outlined materials correctly while putting the consideration that extra handling does not add value. Quantity and quality corporate government should always be done and ensuring that there is no traffic of materials in the receiving section. These activities enhance the performance of the procurement function as they ensure the right quality is received, extra costs are not incurred and production is not delayed.

Separation of duties
Energy firms should practice integration of internal controls and develop strategies to develop them so that they can be able to deliver the quality required without errors and defects. Reliable work floor controls should be adopted among the task holders and the buying organization so as to curb costs from quantity and product deviations. Firms should outsource logistical services from expertise firms so as to minimize damages and delays in materials in transport. These activities improve the performance of the procurement function as they reduce or prevent costs from deviations in delivery through distinctive job description.

Acknowledgement
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