DETERMINANTS OF PROCUREMENT PERFORMANCE IN GOVERNMENT PARASTATALS IN KENYA: A CASE OF KENYA NUCLEAR ELECTRICITY BOARD

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ABSTRACT

Procurement performance contributes to the overall performance of an organization through cost savings, improved quality and reduced lead times which lead to internal customer satisfaction. This study sought to examine the determinants of procurement performance in government parastatals in Kenya, a case study of Kenya Nuclear Electricity Board as its general objective. The specific objectives of the study were: assess the effect of government laws and regulations on procurement performance in Kenya, to analyze the effect of financial resources on procurement performance in Kenya, to establish the effect of information communication technology on procurement performance in Kenya and to determine the effect of procurement training on procurement performance in Kenya. Kenya Nuclear Electricity Board was selected because government parastatals are the worst hit by non-compliance to public procurement regulations and hence a general decline in procurement performance. This study concentrated on the above four indicated variables. This study was conducted through a descriptive survey research design. The study involved 88 employees of Kenya Nuclear Electricity Board, and that it was guided by research questions based on the objectives aforementioned. Literature related to this study was reviewed based on the variables too. The researcher prepared 88 copies of questionnaire for this study that were issued to 88 respondents. The response rate was 79.2 percent which is a good response rate that one can depend on to make conclusions and recommendation. Questionnaires were used as the main data collection instruments and a pilot study was undertaken to pretest the questionnaires for validity and reliability. Descriptive statistics were used aided by Statistical Package for Social Scientists (SPSS) to compute percentages of respondents’ answers. Inferential statistics using, multiple regression and correlation analysis were applied to aid examining the relationship between the research variables. Tables and charts were used to present the analyzed results. Data was collected by use of the questionnaires. The findings were analyzed using descriptive statistics and highlighted the state of the institution; conclusions and the necessary recommendations. The study found out that effective implementation of e-procurement, procurement planning, enhanced management support improved buyer supplier relationship practices in government parastatals in Kenya should be given the necessary attention. To improve on buyer supplier relationship management, government parastatals should improve on the level of commitment in payment of suppliers, employ effective supplier development programs, ensure that all goods and services procured are of high quality, award contracts to competent suppliers, employ effective communication system with suppliers, and implement effective supplier performance.

INTRODUCTION

Worldwide, public procurement has become an issue of public attention and debate, and has been
subjected to reforms, restructuring, rules and regulations. Public procurement refers to the acquisition of goods, services and works by a procuring entity using public funds (World Bank, 2009). According to Roodhooft and Abbeele (2006), public bodies have always been big purchasers, dealing with huge budgets. Mahmood, (2010) also reiterated that public procurement represents 18.42% of the world GDP. Although several developing countries have taken steps to reform their public procurement systems, the process is still shrouded by secrecy, inefficiency, corruption and undercutting. In all these cases, huge amounts of resources are wasted (Arrowsmith, 2010). In Europe’s’ most developed states; there are operational strategies that can drive forward research and innovation by harnessing its large expenditure on civil public procurement. Representing 16.3% of European GDP, public procurement is both a key source of demand for firms in sectors such as construction, health care, environment, security and transport, and a major area in which governments are striving to improve effectiveness. By providing lead markets for new technologies, public authorities can give firms the incentive to invest in research in the knowledge that an informed customer is waiting for the resulting competitive innovations. At the same time, this opens up opportunities to improve the quality and productivity of public services through the deployment of innovative goods and services (Barney, 2008). In developing countries, public procurement is increasingly recognized as essential in service delivery (Basheka and Bisangabasaija, 2010), and it accounts for a high proportion of total expenditure. For instance, public procurement accounts for 60% in Kenya (Akech, 2005), 58% in Angola, 40% in Malawi and 70% of Uganda’s public spending (Wittig, 2006; Government of Uganda, 2006) as cited in Basheka and Bisangabasaija (2010). This is very high when compared with a global average of 12-20% (Frøystad et al., 2010). Due to the colossal amount of money involved in government procurement and the fact that such money comes from the public, there is need for accountability and transparency (Hui et al., 2011). The Good practice in procurement for innovation is emerging in several Member States, demonstrating the benefits of systematic approaches. Key to the spread of successful approaches is the development of a cohort of trained professionals able to meet the criteria for 'intelligent customers'. These purchasers should be familiar with trends in technologies, markets and supplier capabilities, be able to specify functional and quality requirements, and subsequently to assess tenders in terms of whole-life costs. A substantial effort in training and networking of experience is needed. Early engagement of suppliers is an important element in procurement for innovation. Through foresight exercises and other collective activities, a common vision can be shared between the demand and supply sides. It is important that SMEs, with their less extensive networks, should be included so that their innovative capabilities can be applied. The use of Most Economically Advantageous Tender criteria allows combinations of whole-life costs and quality to be assessed, increasing the chance of selecting an innovative outcome. Risk aversion is a particular problem in the government parastatals, especially when benefits go beyond the electoral horizon. However, risk can be effectively managed and mitigated, with partnership an important potential solution (EC, 2011). The contractual regime can also be optimized to encourage innovation. Rights should be assigned to the firm that developed the intellectual property so as to exploit it further in other markets. This in turn should lower the price for the initial purchaser who no longer has to carry the exclusive cost of development. Contractual issues inhibiting innovation are unlimited liability clauses and inappropriate contract durations. A major opportunity exists for European governments to advance the Lisbon agenda for competitiveness and at the same time to engage with the pressing need for improved public services and productivity. However, achieving these goals through procurement for innovation requires changes in the mindset and in the detail of practice in the procurement process. The procurement function hence has not been given the recognition it deserves in developing countries, in most public entities, regardless of the effort by the partners like the World Bank, the International Trade Organization, the United Nations Conference on Trade and Development, the World Trade Organization and, others (EC, 2011).

In South Africa, Reforms in public procurement in SA were initiated to promote the principles of good governance, and the National Treasury introduced a preference system to address socio-economic objectives. The reform processes were due to inconsistency in policy application and the lack of accountability and supportive structures as well as fragmented processes. A uniform
implementation approach to procurement was required, due to a research study on opportunities for reform processes in the South African government conducted by the Joint Country Assessment Review (CPAR) and the World Bank in 2001. The deficiencies and fragmentations in governance, interpretation and implementation of the Preferential Procurement Policy Framework Act (PPPFA) Act No 5 of 2000, resulted in the introduction of supply chain management (SCM) in the government parastatals as a policy tool (Ambe, 2012).

In 2003, a Public Procurement document entitled ‘Supply Chain Management: A guide for accounting officers/authorities’ was developed to guide the adoption of the integrated procurement functions and its related managerial responsibilities (GOK, 2005: 5). This was government’s attempt to achieve the desired strategic policy outcomes through public procurement management. Public Procurement Management operates within a regulatory framework set by the national government and extended by provinces and local government bodies to specific regulations, legislation and regulations. The aim is to add value at each stage of the procurement process – from the demand for goods or services to their acquisition, managing the logistics process, and finally, after use, to their disposal (Ambe, 2012).

In so doing, it addresses deficiencies in current practice relating to procurement, contract management, inventory and asset control and obsolescence planning. Adoption of the policy thus ensures uniformity in bid and contract documentation, and options and bid and procedure standards, inter alia, will promote the standardization of public procurement practices (Ambe, 2012).

Kenyan Perspective of Public Procurement

In Kenya, unlike most developing countries, has in official development policies recognized informal enterprises as more than a residual employer for survival of poor households. Since Independence, the Government has recognized the potential of the SME sector in employment creation and poverty reduction in its numerous policy documents. Public sector procurement can be broken down into two categories, namely project specific procurement and general consumable procurement. In project specific procurement, goods, works or services are sought for a particular initiative (e.g. a new road, a hospital, plant and equipment), whereas general consumable procurement relates to items that are required for a ministry or authority to perform its duties (e.g. fuel, stationery, vehicle parts, road maintenance, and security). The focus of the study will be on general consumable procurement, as this is the area in which most women SMEs are active. It is difficult to estimate the volumes and values of procured goods. It is understood that the Government of Kenya (GoK) procured about KSh. 300 billion worth of goods and services in the 2013 financial year. It is not clear if this includes parastatal and local authority procurement, as they are dependent in part on their own revenue streams. Interviews at district and local authority levels indicate that larger town/district procurement ranges from between KSh. 100 million to KSh. 500 million annually.

In Kenya, public procurement consumes about 60 percent of the country’s annual revenue (Lewa, 2014). It is estimated that public procurement amounts to between 10-20 percent of the country’s GDP (Odhiambo & Kamau, 2013). Further statistics indicate that 30 percent of each county government’s annual allocation is meant for development expenditures. For example, in 2013-14 fiscal years, a total of 61.1 billion shillings was used to procure goods, works and services in the 47 county governments (RoK, 2013b). This is by any description a big market and a major expenditure area for any government which if made accessible to the SMEs, can lead to an accelerated wealth creation, economic growth and development, increased employment opportunities, socio-economic and political stability and balanced regional development (ACEPD, 2011).

A streamlined procurement system will allow the Government to invest more resources in other needy areas such as the health and education of its citizens and offer better salaries to its employees, a venture that has the potential of greatly improving productivity and service delivery by public entities. Similarly, a modernized procurement system will ensure fairness and competition among suppliers of goods, works and services to the Government. This increased competition will not only raise the confidence of Kenyans in the public procurement process but will also ensure the
Government gets value for its money and encourage participation of women SMEs in public procurement. Overall, a reformed Public Procurement System will be a vehicle for delivering to the Kenyan people such benefits as economic growth and poverty reduction, optimized resource application, commitment control, timely delivery of services and reduction of fiduciary risks to acceptable levels, among others (Kimunya, 2008).

Statement of the Problem

Despite Government efforts to improve the procurement system, it is still marred by shoddy works, poor quality goods and services. Improper implementation of recommended performance standards results in unnecessarily high operation costs, uncoordinated business activities, inability to achieve domestic policy goals, and failure to attract and retain professionals. Suppliers complain about the capability of public sector buyers (KISM, 2011) According to Roodhooft and Abbeele (2006), public bodies have always been big purchasers, dealing with huge budgets. Mahmood, (2010) also reiterated that public procurement represents 18.42% of the world GDP. In Kenya, the central government spends about Kshs. 234 billion per year on procurement. However, on annual bases, the government losses close to Ksh. 121 billion about 17 per cent of the national budget due to inflated procurement quotations (KISM 2010). According to Public Procurement Oversight Authority (PPOA 2009), most of the tendered products/services in many public institutions have a mark-up of 60 per cent on the market prices. In the year 2010, the Ministry of Education lost 4.2 billion Kenyan shillings. In the year 2011, a total of Ksh. 33,061,925 is said to have been embezzled from “Kazi Kwa Vijana funds” (Daniel 2010).

The inefficiency and ineptness of overall implementation of procurement practices in many government parastatals contributes to loss of over Ksh.50 million annually (Tom 2009). In developing countries, public procurement is increasingly recognized as essential in service delivery (Basheka and Bisangabasaija, 2010), and it accounts for a high proportion of total expenditure. For instance, public procurement accounts for 60% in Kenya (Akech, 2005), 58% in Angola, 40% in Malawi and 70% of Uganda’s public spending (Wittig, 1999; Government of Uganda, 2006) as cited in Basheka and Bisangabasaija (2010). This is very high when compared with a global average of 12-20 % (Frøystad et al., 2010). Due to the colossal amount of money involved in government procurement and the fact that such money comes from the public, there is need for accountability and transparency, (Hui et al., 2011). It is on this premise the study sought to establish the determinants of procurement performance in government parastatals in Kenya

Study Objectives

The study sought to be guided by the following specific objectives:

i. To assess how government laws and regulations affect procurement performance in government parastatals in Kenya.
ii. To find out how financial resources affect procurement performance in government parastatals in Kenya.
iii. To establish how information communication technology affects procurement performance in government parastatals in Kenya.
iv. To determine how training affects procurement performance in government parastatals in Kenya.

LITERATURE REVIEW

Theoretical Review

Theoretical frameworks are explanations about a phenomenon. According to Abeywardena & Tham (2012) a theoretical framework provides the researcher with a lens to view the world. A theory is an accepted fact that attempts to provide a plausible or rational explanation of cause- and-effect (causal) relationship among a group of observed phenomenon (Adamov, 2012). The study is built upon certain theories that have much links with public procurement market. Some of the relevant theories
discussed include the Auction theory, Agency theory, Resource Based Theory and Public Interest Theory of Regulation.

**Compliance Theory**

According to Kal Raustialla (2010), compliance theory is an approach to organizational structure that integrates several ideas from the classical and participatory management models. According to compliance theory, organizations can be classified by the type of power they use to direct the behavior of their members and the type of involvement of the participants. In most organizations, types of power and involvement are related in three predictable combinations: coercive-alienative, utilitarian-calculative, and normative-moral. Of course, a few organizations combine two or even all three types. In most organizations, types of power and involvement are related in three predictable combinations: coercive-alienative, utilitarian-calculative, and normative-moral. Of course, a few organizations combine two or even all three types. Amitai Etzioni developed an innovative approach to the structure of organizations that he calls compliance theory. He classifies organizations by the type of power they use to direct the behavior of their members and the type of involvement of the participants. Etzioni identifies three types of organizational power: coercive, utilitarian, and normative, and relates these to three types of involvement: alienative, calculative, and moral (Lunenburg 2008). Coercive power uses force and fear to control lower-level participants. Examples of organizations that rely on coercive power include prisons, custodial mental hospitals, and basic training in the military. Utilitarian power uses remuneration or extrinsic rewards to control lower-level participants. Most business firms emphasize such extrinsic rewards. These rewards include salary, merit pay, fringe benefits, working conditions, and job security. Besides many business firms, utilitarian organizations include unions, farmers’ co-ops, and various government agencies (Lunenburg 2008). Normative power controls through allocation of intrinsic rewards, such as interesting work, identification with goals, and making a contribution to society. Management’s power in this case rests on its ability to manipulate symbolic rewards, allocate esteem and prestige symbols, administer ritual, and effect the distribution of acceptance and positive response in the organization. Many professional people work in normative organizations. Examples of such organizations are churches, political organizations, hospitals, universities, and professional associations (such as the American Association of School Administrators, National Association of Elementary School Principals, National Association of Secondary School Principals, and National Education Association). Public entities probably fit this category for the most part, although there are vast differences in their use of power to gain member compliance, particularly the control of pupils (Lunenburg & Ornstein, 2008). All three types of power can be useful in obtaining subordinates’ cooperation in organizations. However, the relative effectiveness of each approach depends on the organizational participant’s involvement. Involvement refers to the orientation of a person to an object, characterized in terms of intensity and direction. Accordingly, people can be placed on an involvement continuum that ranges from highly negative to highly positive. Etzioni suggests that participants’ involvement can be broadly categorized as alienative, calculative, or moral. Alienative involvement designates an intense, negative orientation. Inmates in prisons, patients in custodial mental hospitals, and enlisted personnel in basic training all tend to be alienated from their respective organizations. However, in the case of military personnel undergoing basic training, the ultimate goal is adherence to the organization’s values. Identification with underlying values helps military recruits reconcile personal discomfort caused by their membership in the organization during boot camp (Champoux, 2011).

When an organization employs coercive power, participants usually react to the organization with hostility, which is alienative involvement. Utilitarian power usually results in calculative involvement; that is, participants desire to maximize personal gain. Finally, normative power frequently creates moral involvement; for instance, participants are committed to the socially beneficial features of their organizations. Some organizations employ all three types of power, but
most tend to emphasize only one, relying less on the other two. Power specialization occurs because when two types of power are emphasized simultaneously with the same participant group, they tend to neutralize each other (Raustialla, 2010).

The specific objective: To assess the effect of government laws and regulations on organizational performance in Kenya will be well related to compliance theory. The Kenyan Government has moved to implement the laws that will aid sustainable public procurement. All public entities must use the Procurement Manual 2009. It provides a way for the user to apply the Public Procurement and Disposal Act, 2005 and the Public Procurement and Disposal Regulations 2006 and facilitates the standardization of procurement practice across all Procuring Entities across Kenya. It serves as a reference tool for guiding the practice of public procurement in Kenya and ensuring full compliance with the requirements of the Public Procurement Law and Regulations. No public procurement should be carried out without first ensuring compliance with the requirements set out in this manual. (PPOA, 2009) and this can be the basis along which the research measures can be compared to.

Resource Based View Theory
A resource is a relatively observable, tradable asset that contributes to a firm’s market position by improving customer value or lowering cost (or both); and a capability denotes the ability of a firm to accomplish tasks that are linked to higher economic performance by increasing value, decreasing cost, or both. (Walker, 2004). Barney and Hesterly (2008), also describe resources as tangible and intangible assets a firm uses to conceive of and implement its strategies; and capabilities as a subset of resources that enable a firm to take advantage of its other resources. Eisenhardt and Martin (2000), argues that availability of substitute resources tends to depress returns of the holders of a given resource and this justifies the reason why they should be shielded from competitors. By conducting an effective value chain analysis, an organization is able to identify these scarce resources that give it competitive advantage and apply appropriate mechanisms to protect the resources from competitors. Dynamic capability is an extension of the RBV perspective defined as the firm’s ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments to attain new and innovative forms of competitive advantage (Teece, et al., 1997). The Dynamic Capabilities Framework helps identify the factors likely to impact enterprise performance. It is gradually developing into a (interdisciplinary) theory of the modern corporation (Teece, 2010). Dynamic capabilities have lent value to the RBV arguments as they transform what is essentially a static view into one that can encompass competitive advantage in a dynamic context (Barney, 2001). Dynamic capabilities are “the capacity of an organization to purposefully create, extend or modify its resource base” (Helfat, et al., 2007). Teece (2007), recognizes that dynamic capabilities help sustain firm’s evolutionary fitness by enabling the creation, extension and modification of its resource base thereby creating long-run competitive success. While some see dynamic capabilities as the key to competitive advantage (Teece, et al., 1997), others seem to doubt that there is actually such a thing. Dynamic capabilities can usefully be thought of as belonging to three clusters of activities and adjustments: Firstly, identification and assessment of an opportunity (sensing); secondly, mobilization of resources to address an opportunity and to capture value from doing so (seizing); and thirdly continued renewal (transforming). These activities are required if the firm is to sustain itself as markets and technologies change, although some firms will be stronger than others in performing some or all of these tasks (Teece 2011).

Ambrosini, et al. (2009) suggest that there are three levels of dynamic capabilities which are related to managers’ perceptions of environmental dynamism. At the first level are the incremental dynamic capabilities, these are those capabilities concerned with the continuous improvement of the firm’s resource base. At the second level, are renewing dynamic capabilities, those that refresh, adapt and augment the resource base. At the third level are regenerative dynamic capabilities, which impact, not on the firm’s resource base, but on its current set of dynamic capabilities. These change the way
the firm changes its resource base.

**An Evolutionary Theory on Economic Change**
Evolutionary economics deals with the study of processes that transform economy for firms, institutions, industries, employment, production, trade and growth within, through the actions of diverse agents from experience and interactions, using evolutionary methodology. Evolutionary economics analyses the unleashing of a process of technological and institutional innovation by generating and testing a diversity of ideas which discover and accumulate more survival value for the costs incurred than competing alternatives. The evidence suggests that it could be adaptive efficiency that defines economic efficiency. Karl Marx based his theory of economic development on the premise of evolving economic systems; specifically, over the course of history superior economic systems would replace inferior ones. Inferior systems were beset by internal contradictions and inefficiencies that make them impossible to survive over the long term. In Marx's scheme, feudalism was replaced by capitalism, which would eventually be superseded by socialism. Mainstream economic reasoning begins with the postulates of scarcity and rational agents (that is, agents modelled as maximizing their individual welfare), with the "rational choice" for any agent being a straightforward exercise in mathematical optimization. There has been renewed interest in treating economic systems as evolutionary systems in the developing field of Complexity economics. Evolutionary economics does not take the characteristics of either the objects of choice or of the decision-maker as fixed. Rather its focus is on the non-equilibrium processes that transform the economy from within and their implications. The processes in turn emerge from actions of diverse agents with bounded rationality who may learn from experience and interactions and whose differences contribute to the change (Geoffrey 2012).

The Kenyan Government is in a bid to initiate changes that will reduce the level of public expenditure. This can be done through modern mechanisms that will aim to reduce the adverse environmental, social and economic impacts of purchased products and services throughout their life as based on the vision 2030 on sustainable development and environmental sustainability whereby there is a bid to ensure the framework to reduce on expenditure, re-use on the products and ensure the government parastatalss and companies embrace comprehensive market research on suppliers in a bid to improve performance of all operations. Re-thinking on the procurement status as per the need of the entire field based on the level at which we aim to meet the economic, social and political goals as per the vision 2030 pillars on development (GOK, 2014). The evolutionary theory on economic change will illustrate how the external market and economic conditions will foster the adaptation of new policies and procedures; taking into account what input and benefits from and to would yields the overall costs benefits and negate adverse spending. This is in view to reduce the tax burden and move funds from adverse public procurement to other sustainable development agendas that would also flow to the private sector. These are pegged on the bottom line that of which is extended to the organizations by appropriate tracking of performance by adequate research and development.

**Technology Acceptance Model**
There are several models existing that have been used to investigate adoption of technology. Several studies focusing on adoption of mobile services have their roots in Technology Acceptance Model (TAM) originally proposed by Davies in 1986. The model is originally designed to predict user’s acceptance of Information Technology and usage in an organizational context. TAM focuses on the attitude explanations of intention to use a specific technology or service; it has become a widely applied model for user acceptance and usage. There are a number of meta-analyses on the TAM that have demonstrated that it is a valid, robust and powerful model for predicting user acceptance (Bertrand and Bouchard, 2008). The TAM model which deals with perceptions as opposed to real usage, suggests that when users are presented with a new technology, two important factors influence their decision about how and when they will use it (Davis, 1989). These

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key factors are: Perceived usefulness, perceived ease of use and attitude towards using Actual system Use. Perceived usefulness (PU) - This was defined by Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". And Perceived ease-of-use (PEoU)- Davis defined this as "the degree to which a person believes that using a particular system would be free from effort"

### 2.3 Conceptual Framework

The conceptual framework explains the relationship between the independent variables and the dependent variables. The former is presumed to be the cause of the changes while the former affects the latter (Kothari, 2004). In this study, the conceptual framework is based on variables that have been critically derived from the specific objectives and will define the relationship between government laws and regulations; the financial resources, market structure and innovation that are related to the Effect of Procurement Research on Organizational Performance in Kenya.

**Government Laws & Regulation**
- Procurement Process
- Procurement Planning
- Management support
- Procurement methods

**Financial Resources**
- Budgetary allocations
- Participatory Planning
- External funding
- Self sufficiency

**ICT**
- Computer literacy
- Level of automation
- Procurement systems

**Procurement Training**
- Training assessment needs
- Procurement staff qualifications
- Impact on training
- Procurement professional skills

**Procurement Performance**
- Compliance with regulations
- Minimization of expenditure
- Procured quality goods
- Transparency & accountability

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**Independent Variables**
**Dependent variable**

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**Figure 2.1: Conceptual Framework**

**RESEARCH METHODOLOGY**

**Research Design**
The research design is a framework for conducting research. It includes the procedures necessary for
obtaining the data and information needed to structure and solve a research problem (Babbie, 2013). It refers to the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure (Babbie, 2007). It is a blueprint which facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible and yielding maximum information with minimal effort, time and money (Kothari, 2009). The research design employed was descriptive survey where data was collected one point in time. Mugenda and Mugenda (2008) notes that a descriptive survey seeks to obtain information that describes existing phenomena by asking questions relating to individual perceptions and attitudes. The design was considered suitable as it allowed an in-depth study of the problem under investigation.

Target Population
Mugenda and Mugenda (2003), describes a population as the entire group of individuals or items under considerations in any field of inquiry and have a common attribute. Target population is defined by Kothari (2008) as a universal set of the study of all members of real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. In this study the target populations were 88 employees of KNEB drawn from procurement and related departments who were engaged in procurement activities as tabulated below.

Table 3.1 Target Population

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management</td>
<td>21</td>
<td>23.86</td>
</tr>
<tr>
<td>Middle level management</td>
<td>35</td>
<td>39.78</td>
</tr>
<tr>
<td>Supervisors</td>
<td>20</td>
<td>22.72</td>
</tr>
<tr>
<td>Procurement Staff</td>
<td>12</td>
<td>13.63</td>
</tr>
<tr>
<td>Total</td>
<td>88</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: KNEB (2016)

Sample Size and Sampling Technique
The actual population in this study was made up of the 88 employees of KNEB. Since the population was relatively small, a census survey was used implying that all the 88 employees of KNEB were studied. According to Abbott and McKinney (2013) a census yields more reliable results than a sample, and whenever it is possible it should be undertaken. Since major procurement related matters are carried out by the targeted population, they are seen as most appropriate to give out the required information for the purpose of this study and therefore they were targeted as respondents for the study. The census approach is justified since according to Orodho (2009), data gathered using census contributes towards gathering of unbiased data representing all individuals’ opinions on a study problem (Field, 2006). Census provides a true measure of the population since there is no sampling error and more detailed information about the study problem within the population is likely to be gathered (Saunders, 2011).

Data Collection Tools
This study used structured questionnaires to obtain information from study respondents. A questionnaire is a research instrument consisting of a set of questions (items) intended to capture responses from respondents in a standardized manner. This questionnaire required the study respondents to provide a response in their own words and also allow them to select an answer from a given set of choices. Questions were designed such that respondents were able to read, understand, and respond to them in a meaningful way.

The study made use of primary data by administration of structured questionnaires. Structured questionnaires consisted of both open ended and closed ended questions designed to elicit specific responses for qualitative and quantitative analysis respectively. A questionnaire is a useful tool for collecting data from respondents because of the need to provide a means of expressing their views
openly and clearly. The questionnaires were administered to the employees since they are the ones involved in procurement issues in the organization. The respondents were expected to give an insight into the procurement performance they have put in place to ensure that they improve the performance of their organization.

Data Collection Procedure
The researcher contacted the management with an introduction letter requesting for permission to collect data and to drop questionnaires. The individual employees were explained for by the researcher on the intention and purpose of the study. The researcher then recruited and trained two research assistants in an effort to ensure that they carry out the exercise properly. The questionnaires were then delivered by the researcher with the help of the two research assistants to the respondents. The respondents filled the questionnaires within a period of two weeks after which the questionnaires were collected.

Pilot Study
Piloting of the questionnaire was done prior the actual data collection by using it on the retail outlets which were not included in the final study. The research instrument was pre-tested as per Mugenda and Mugenda (2012) which says that a successful pilot study would use 1% to 10% of the actual population. The suitability of the questionnaire for this study was tested by first administering it to 8 employees of the KNEB which is approximately 10%. The respondents who were used for the pilot test were not similar to the sample to be studied and similar procedures as those used in the main study were applied. They were asked to evaluate the clarity, relevance and usefulness of the questionnaires. Piloting enabled the researcher to ascertain the validity and reliability of the instrument. After pilot testing, the questionnaire was revised to incorporate the feedback that was provided.

Validity of Instrument
The study also adopted content validity which indicated whether the test items represent the content that the test is designed to measure. The pilot study assisted in determining accuracy, clarity and suitability of the instruments. It also helped to identify inadequate and ambiguous items such that those that fail to measure the variables they are modified or disregarded completely and new items added. Gall et al, (2006) points out that content experts help determine content validity. The draft questionnaires were given to a selected person knowledgeable in research to ascertain the items suitability in obtaining information according to research objectives of the study. The content validity formula by Amin (2005) was used in this study. The formula is; Content Validity Index = (No. of judges declaring item valid) (Total no. of items). It is recommended that instruments used in research should have CVI of about 0.78 or higher and three or more experts could be considered evidence of good content validity (Amin, 2005). This study adopted a threshold of 0.78.

Reliability of Instrument
Reliability of the instruments concerns the degree to which a particular instrument gives similar results over a number of repeated trials (Mugenda &Mugenda, 2003). The researcher pre-tested each of the questionnaires to the pilot sample. Pre-testing was conducted to check the questionnaires structure and the sequence, meaning and ambiguity of questions. Pre-testing was done in order to refine and ascertain the reliability of the research instruments before they are applied in the actual research (Cooper & Schindler, 2003). The discovered errors were corrected, ambiguous questions made clearer and relevant and the contents revised. To compute the coefficient, the researcher used the formula:

\[ Re = \frac{2r}{r + 1} \]

Where \( Re = \) reliability of the original test
\( r = \) reliability of the coefficient resulting from correlating the scores of the odd
items with the scores of the even items. The research instrument was deemed reliable if the reliability coefficient is about 0.7 and above Mugenda and Mugenda (2012). The study used the most common internal consistency measure known as Cronbach’s alpha (α). It indicates the extent to which a set of test items can be treated as measuring a single latent variable. The recommended value of 0.7 was used as a cut-off of reliabilities.

**Data Processing and Analysis**

Data was analyzed using statistical package for social science (SPSS) version 21 and Excel. All the questionnaires received were referenced and items in the questionnaire coded to make data entry easy. Descriptive statistics were estimated for the various variables. Frequency tables and graphs were made for all the variables. According to Mugenda and Mugenda (2003) descriptive statistics enables a researcher to meaningfully describe distribution of scores using few indices. The data reliability was checked using the Cronbach’s alpha index. Content analysis was employed to analyze the qualitative data whereas statistical methods, regression and correlation analysis were utilized to analyze the quantitative data. The findings were presented using tables, charts and graphs to facilitate comparison and for easy inference. In order to analyze the relationship between the independent variables and the dependent variable, the study used multiple regression analysis at 5% level of significance. To test the level of significance of each independent variable against dependent variable, the study used the model summary ANOVA and Coefficient Regression. The Multiple Regression model that aided the analysis of the variable relationships was as follows:

\[ Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon, \]

Where, \( Y_i \) = Procurement Performance; \( \beta_0 \) = constant (coefficient of intercept), \( X_1 \) = Government laws and regulations; \( X_2 \) = Financial resources; \( X_3 \) = ICT; \( X_4 \) = Training; \( \varepsilon \) = error term;

\( \beta_1 \ldots \beta_4 \) = regression coefficient of four variables.

**RESULTS AND DISCUSSION**

**Response Rate**

A census of 88 was carried out using census survey design method. A total of 88 questionnaires were distributed to the employees. Out of the population covered, 55 were responsive representing a response rate of 62.5%. This was above the 50% which is considered adequate in descriptive statistics according to Mugenda & Mugenda (2012). Quantitative data obtained from the questionnaires were presented in tables, frequencies and percentages as shown hereafter.

**Table 4.1: Showing Response Rate of Respondents**

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Response</td>
<td>55</td>
<td>62.50%</td>
</tr>
<tr>
<td>Non-Response</td>
<td>33</td>
<td>37.50%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>88</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Pilot Study**

The cronbach alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of the thumb for cronbach alpha is that the closer the alpha is to 1 the higher the reliability (Sekaran, 2008). A value of at least 0.7 is recommended. Cronbach’s alpha is the most commonly used coefficient of internal consistency and its computed as Reliability was done by testing for both consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach’s alpha was used to measure reliability. This was done on the four objectives of the study. For validity tests factor analysis was used to reveal
whether the dimensions were indeed tapped by the items in the measures. The Cronbach’s alpha results were ranging between 0.798 and 0.910 and therefore the construct was acceptable as shown by Table 4.1.

**Table 4.2: Reliability Results**

<table>
<thead>
<tr>
<th>Items</th>
<th>Alpha Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government laws and regulations</td>
<td>.865</td>
</tr>
<tr>
<td>2. Financial Resources</td>
<td>.798</td>
</tr>
<tr>
<td>3. ICT</td>
<td>.880</td>
</tr>
<tr>
<td>4. Training</td>
<td>.813</td>
</tr>
<tr>
<td>Overall Scale</td>
<td>.910</td>
</tr>
</tbody>
</table>

Discriminant validity shows that the measure is unique in some way. Discriminant validity gauges the extent to which measures of two different constructs are comparatively distinctive from each other, and that their correlation values are neither an absolute value of 0 nor 1. Discriminant validity assesses the degree to which a concept and its indicators differ from another concept and its indicators. It means that items from one scale should not load or converge too closely with items from a different scale and that different latent variables which correlate too highly may indeed be measuring the same construct rather than different constructs. A correlation analysis was run on all the dimensions of determinants of procurement performance in government parastatals in Kenya. The results were presented in Table 4.2. According to the findings all the dimensions are not perfectly correlated as their correlation coefficients fall between 0 and 1.

**Table 4.3: Pearson Correlations on determinants of procurement performance in government parastatals in Kenya**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Govt laws &amp; regulations</th>
<th>Financial resources</th>
<th>ICT</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Govt laws &amp; regulations</td>
<td>1</td>
<td>.632**</td>
<td>.421**</td>
<td>.377**</td>
</tr>
<tr>
<td>Financial resources</td>
<td>-</td>
<td>1</td>
<td>.773**</td>
<td>.354**</td>
</tr>
<tr>
<td>ICT</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>.401**</td>
</tr>
<tr>
<td>Training</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

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

**Multiple Regression Analysis**

The study adopted a multiple regression analysis so as to establish the relationship of independent variables and dependent variables. The study applied SPSS version 22 to code, enter and compute the measurements of the multiple regression analysis. According to the model summary Table 4.11, the coefficient of determination ($R^2$) is used to measure how far the regression model’s ability to explain the variation of the independent variables. The coefficient of determination is between zero and one. The data showed that the high $R$ square is 0.776. It shows that the independent variables in
the study were able to explain 77.60% variation in the procurement performance in government parastatals while the remaining 22.40% is explained by the variables or other aspects outside the model. This implies that these variables are very significant and they therefore need to be considered in any effort to boost procurement performance in the parastatal. The study therefore identifies variables as critical determinants of procurement performance in the parastatal in the study area.

**Table 4.11: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>R²</th>
<th>Std. Error of Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.882</td>
<td>.776</td>
<td>.065</td>
<td>.010</td>
<td>1.887</td>
<td></td>
</tr>
</tbody>
</table>

**4.6.1. F-Test Results**

F-test is done to test the effect of independent variables on the dependent variable simultaneously. The F-statistic test basically shows whether all the independent variables included in the model jointly influence on the dependent variable. Based on the study results of the ANOVA Test or F-test in Table 4.12, obtained F-count was 126.37 greater the F-critical (8.8765) with significance of 0.000. Since the significance level of 0.000< 0.05 we conclude that the set of independent variables affect the procurement performance in government parastatals in Kenya (Y-dependent variable) and this shows that the overall model was significant.

**Table 4.12: ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum Squares</th>
<th>of Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>10.009</td>
<td>4</td>
<td>2.5022</td>
<td>126.37</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>3.678</td>
<td>50</td>
<td>.0198</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13.687</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** F-critical Value = 8.8765;

The results of multiple regression analysis obtained regression coefficients t value and significance level as indicated in Table 4.13. The study conducted a multiple regression analysis so as to determine the relationship between the dependent variable and independent variables. The general form of the equation was to predict procurement performance from government laws and regulations, financial resources, ICT and procurement training is: \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \) becomes: \( Y = 33.675 + 0.888X_1 + 0.785X_2 + 0.643X_3 + 0.599X_4 + \varepsilon \). This indicates that performance of women MSEs = 33.675 + 0.888* Government laws and regulations + 0.785*Financial resources + 0.643*ICT + 0.599*Procurement training + 0.223).

From the study findings on the regression equation established, taking all factors into account (independent variables) constant at zero procurement performance will be 33.675. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in government laws and regulations will lead to a 0.888 increase in procurement performance; a unit increase in financial resources will lead to a 0.785 increase in procurement performance, a unit increase in ICT will lead to 0.643 increase in performance of women MSEs and a unit increase in procurement
training will lead to 0.599 increase in procurement performance. This infers that government laws and regulations contributed most to procurement performance. Based at 5% level of significance, government laws and regulations had a .000 level of significance; financial resources showed a .006 level of significance, ICT show a .008 level of significance and procurement training show a .009 level of significance hence the most significant factor was government laws and regulations.

Table 4.13: Coefficient Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Std. Error</td>
<td>β</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>33.675</td>
<td>.223</td>
<td>7.615</td>
<td>.000</td>
</tr>
<tr>
<td>X1_GLR</td>
<td>.888</td>
<td>.065</td>
<td>.765</td>
<td>7.876</td>
</tr>
<tr>
<td>X2_FR</td>
<td>.785</td>
<td>.076</td>
<td>.654</td>
<td>6.654</td>
</tr>
<tr>
<td>X3_ICT</td>
<td>.643</td>
<td>.123</td>
<td>.555</td>
<td>5.876</td>
</tr>
<tr>
<td>X4_PT</td>
<td>.599</td>
<td>.222</td>
<td>.532</td>
<td>4.771</td>
</tr>
</tbody>
</table>

T-Test Results

To determine the significance of the effect of independent variables (government laws and regulations, financial resources, ICT and procurement training) on the procurement performance as the dependent variable is the T-test. The results of t-test on Table 4.8 were as follows: The T-value for government laws and regulations (7.876) has a significance level of 0.000 thus the value of less than 0.05. Thus research question one is concluded that the government laws and regulations has significant positive impact on the procurement performance in government parastatals in Kenya.

The T-value for financial resources (6.654) has a significance level of 0.006 thus the value of less than 0.05. Thus research question two is concluded that the financial resource has significant positive impact on the procurement performance in government parastatals in Kenya.

The T-value for information communication and technology (5.876) has a significance level of 0.008 thus the value of less than 0.05. Thus research question three is concluded that information communication and technology has significant positive impact on the procurement performance in government parastatals in Kenya.

The T-value for procurement training (4.771) has a significance level of 0.009 thus the value of less than 0.05. Thus research question four is concluded that the procurement training has significant positive impact on the procurement performance in government parastatals in Kenya.

Conclusion of The Study

Based on the study findings, the study concludes that procurement performance in government parastatals is affected by government laws and regulations followed by financial resources, information communication technology and procurement training are the major factors that mostly affect procurement performance in government parastatals in Kenya.

The study concludes that government laws and regulations is the first important factor that affects procurement performance in government parastatals. The regression coefficients of the study show...
that stakeholder participation has a significant influence of 0.888 on procurement performance in government parastatals. This implies that increasing levels of government laws and regulations by a unit would increase the levels of procurement performance in government parastatals by 0.876. This shows that government laws and regulations have a positive influence on procurement performance in government parastatals.

Financial resources are the second important factor that affects procurement performance in government parastatals. The regression coefficients of the study show that financial resources have a significant influence of 0.785 on procurement performance in government parastatals. This implies that increasing levels of financial resources by a unit would increase the levels of procurement performance in government parastatals by 0.785. This shows that financial resources have a positive influence on procurement performance in government parastatals in Kenya.

Further, procurement training is the third important factor that affects procurement performance in government parastatals in Kenya. The regression coefficients of the study show that procurement training has a significant influence of 0.673 on procurement performance in government parastatals. This implies that increasing levels of procurement performance by a unit would increase the levels of procurement performance in government parastatals by 0.673. This shows that procurement training has a positive influence on procurement performance in government parastatals.

Finally, the study concludes that information communication and technology is the fourth important factor that affects procurement performance in government parastatals. The regression coefficients of the study show that ICT has a significant influence of 0.599 on procurement performance in government parastatals. This implies that increasing levels of ICT by a unit would increase the levels of procurement performance in government parastatals by 0.599. This shows that ICT has a positive influence on procurement performance in government parastatals.
Recommendations of the study
To ensure that government laws and regulations supports procurement performance in government parastatals in Kenya, the management of the parastatals should improve on the level of compliance with procurement regulations compliance, design and apply better procurement policies, support and encourage other staff to execute procurement functions in accordance with the procurement regulations and procurement policies, use effective procurement procedures, improve on relationship between management and stakeholders and employ better methods of managing organization resources.

Procurement performance in government parastatals in Kenya is hindered by the available financial resources. The management of parastatals should thus apply the principle of economic order quantity in management of finances, use effective financial management practices, avoid procurement methods that lead to long lead time and embrace inventory management strategies that help in minimization of inventory costs.

The management of government parastatals embraces effective procurement training in order to support procurement performance in government parastatals in Kenya. Effective procurement training should be adopted, better supplier selection strategies should be used, effective supplier selection process should be employed, better supplier performance methods should be applied, effective supplier relationship management techniques should be adopted and supplier development and supplier collaboration should be employed.

The management of government parastatals need to invest extensively in employees training by emphasizing and promoting the culture of learning organizations that is different from the current trends where many institutions use seminars and workshops as the only method of training. The management of institutions should also employ professional trained procurement staff and continuously train the staff on emerging issues on public procurement practices. Government parastatals should effectively integrate procurement functions with ICT based systems through application of e-procurement methods, use of automated procurement systems; implementation of supportive ICT infrastructure for encouraging adoption of ICT based procurement systems and training of procurement staff on ICT skills.

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