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TENDER DOCUMENT SPECIFICATION AND PROCUREMENT PERFORMANCE IN WATER AND SEWERAGE COMPANIES IN KIAMBU COUNTY IN KENYA.

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Abstract

The overall objective of this research was to examine the effect of tender document specification, on procurement performance in water and sewerage companies in Kiambu County. This research project was anchored on relevant theories which include the Agency Theory, Classic Organization Theory, Theory of Constraints and Competency Theory. The descriptive research design was used for this study, with the target population being 983 staff members in all water and sewerage companies in Kiambu County. The study adopted stratified proportionate sampling in selecting the respondents from the top, middle and lower-level management categories where a sample of 259 respondents was obtained. Data collection was done using questionnaires. The tools were pre-tested at Nairobi water and sewerage companies where 30 respondents were selected. The pretest which was done using the split-half technique obtained a correlation coefficient of 0.769. Data analysis was done using inferential statistics and results were presented in cross-tabulations, frequency, and percentages. Pearson's correlation and Multiple Regression analysis will be used in analyzing data. The analysis was facilitated by the use of Statistical Package for Social Sciences. The results obtained imply that there was a significant relationship between tender document specification and procurement performance in water and sewerage companies in Kiambu at a 5% significance level. The intercept and slope coefficients for the model showed that there was a statistically significant positive relationship between tender document specification and procurement performance in water and sewerage companies in Kiambu County, Kenya. The study recommends that water and sewerage companies should leverage focus on proper tender document specification to enhance procurement performance of their firms. The study will form a basis of policy formulation on procurement matters in water and sewerage companies in Kenya and provide a basis for further research in the field.

Keywords: Procurement, Performance, Tender, Water companies.

1. Introduction

1.1 Background Information

The performance of a procurement activity depends on the specification being a true and accurate statement of the buyer's specifications (Forsgren&Rahkonen, 2014). Material specification refers to and begins with tender document specification which is the extent or

Vol. 3, No. 11; 2019

ISSN: 2456-7760

scope, structure, and evaluation of tender documents. It also refers to the legal framework on technical, material specification and due diligence. Product description and specification aim to deliver goods that satisfy the customer at the most efficient and competitive cost (Koelsch, 2016). Item description, though not restrictive, helps in the elimination of any product that is supplied in the firm and fails to meet the requirements set drawn (Gallaway, 2015). A reliable and efficient specification should provide room for competition, that is, open and not closed, including the methods to be used for testing conformance with specifications as well as enable the selection of the most cost-efficient bid (Koelsch, 2016).

In Kenya, the regulatory framework governing material specification is The Public Procurement and Asset disposal act (PPADA), 2015 which provides public entities with guidelines on material specification. The act establishes the procedures and due diligence on technical and material specifications. However, a study done by Koelsch and Rahkonen (2016) on the water and sewerage firms in Kenya (Nyeri County) shows that proper material specification has a positive effect on the productivity of a firm. The study further states that firms sometimes ignore to do proper material specification, therefore, causing disruptions and procurement underperformance in the public sector. It is difficult for a procuring entity to initiate and prepare all specifications despite having the final say on the suitability and competitiveness of a specification (Forsgren & Rahkonen, 2014). The procurement department has a principal duty of ensuring that items purchased using contracts that do not limit the quantity as well as those whose quantities are planned. (Kovács, 2014). Procurement can only satisfy the needs of the customer and enhance the competitiveness of both the product and the price by providing specifications that do not restrict certain supplies (Thomas, 2011). The procuring entity is also responsible for the final certification of the specifications from the user departments by ensuring that proper language is used to ensure clarity in communicating the firm's needs to the suppliers (Randall, 2014).

There has been continuous pressure on public institutions to ensure that quality commensurate to price by inquiring about proper products as well as infrastructure. This means that public procuring entities should be strategic in their procurement in order to reduce wastes for the company in the future (Institute for Sustainable Development, 2013). The materials management function in conjunction with the procurement function should make clear specification to ensure that correct products are acquired and that suppliers have an easy time in interpreting the specifications (Kumar, 2014). If specifications are misinterpreted by the procurement function, it leads to the acquisition of the wrong product because suppliers also misinterpret the specifications and this ultimately leads to delivery of products that not required for the production purpose and thus disruption of the entire operation process of the plant (Drurry, 2011). Errors and omissions in the specifications of materials lead to the acquisition of undesired materials, which leads to extra costs being incurred and causing delays in the production process of an operation firm (Shina, 2011).

Material specification is an intricate process, influenced by related variables (Ljungberg, 2012). The constraints in making an appropriate material choice from a number of options, demands that a procuring entity understands the variables that effectively evaluate the trade-offs in economic, technical, environmental, and productivity issues (Chan & Tong, 2012). This study

Vol. 3, No. 11; 2019

ISSN: 2456-7760

focused on the constraints facing the development of effective material specifications in water and sewerage companies in Kiambu County, Kenya. According to Dryden and Brownell (2012), the preparation of specification requires technical experts. This activity should be properly controlled so as to ensure that there no delays in preparations of the desired specification. Delay in preparation of specifications leads to delivery delays due to more time required by the procurement function and also limited time for suppliers to select the right materials ordered (Lambert, 2011). The procurement process is likely to be delayed due to the inability to get the right expertise required for certain materials. The specifications should not be ambiguous because this gives the suppliers a challenge in interpreting the specifications and most probably the delivery of wrong products (Maghanga, 2011). In the US, Dahl (2011) explored a method for proper consolidation of raw material purchasing specifications to attain quality improvement and leverage in a multinational food company. The major area of focus was the commodity dairy proteins as these were valuable for the determination of the finished product quality. The study found that the material specifications were centrally managed while the material requirements were standardized, reducing any inconsistency in the specifications. This paper noted that the purchasing specifications were reduced and more quantity was purchased from a single product specification. Centralizing the specifications and consolidating the requirements, reduced any duplication of activities, reduced the inconsistencies in specifications, and brought any ownership and responsibility to one group. It also brought worldview visibility and provided for more effective future specification updates when required by the entity.

Klatt (2015) tested performance-based specifications in public procurement in Germany using a three-process research approach by testing the legal framework surrounding Germany, checking tender documents and interviewing public officials. This study revealed that while from a legal point of view there is a clear framework on the use of performance-based specifications, in reality, these types of specifications are seldom used. The main reasons for these findings were a lack of adequate training on its use and its advantages and the practitioners' impression of predominant disadvantages. The results reveal an imbalance in the theoretical and practical use of performance-based specifications in public procurement. According to Sheoraj (2007), skills and capacity shortages have been identified as the single greatest impediment to the success of public procurement in South Africa. Adequate capacity in the form of appropriate structures with fully skilled and professional SCM personnel is a key success factor for proper SCM implementation. In some government entities, the quality of SCM personnel's skills and ability are well below standard. Migiro and Ambe (2008) note that many practitioners of the South African public procurement sector sphere have attended a couple of training workshops on material specification, but they still lack the appropriate knowledge for proper implementation. McCarthy (2006) contends that there is a lack of capacity and knowledge by SCM actors to handle procurement processes that have led to bad governance. Ambe and Badenhorst-Weiss (2011) also noted that there are inadequate controls and procedures for the handling of bids; appointment of bid committee members not aligned to policy requirements; and insufficient motivation for deviations from SCM procedures.

In Nigeria a research study carried out by Oladinrin, Olatunji and Tomiwa Hamza (2013) on the impact that procurement systems have on the building performance of updated buildings, that is,

Vol. 3, No. 11; 2019

ISSN: 2456-7760

quality and cost effects. Structured questionnaires were used to collect the data among the construction industry players in Lagos, Nigeria. After the data was analyzed, it was clear that in Nigeria, projects were implemented using the traditional methods of procurement. Cost reduction was evident in the build and design systems, although the quality of the systems that were used to manage the construction was questionable. It was evident from the study that there was no one fit approach to a procurement system. Therefore, the study recommended the importance of the stakeholders and other participants in the construction industry to be conversant with the procurement systems so as to provide proper guidance to their customers on the proper procurement in the construction sector and the need to properly establish the main and the supporting objectives in procurement buildings. Within the East African region, Ivamba (2016) analyzed the contraints affecting procurement processes for Parastatal Organizations, the case of PPF Pension Funds. The main aim of the study was to find out the factors affecting procurement processes for Parastatal Organizations with specific focus to PPF Pension Funds Head Quarters' in Samora/Morogoro Road, Ilala District in Dar es Salaam. The cross-sectional survey study was conducted whereby data were obtained through questionnaires administered to 45 respondents and involved a sample size of 50%. Through the study, factors, which were found to be directly affecting the procurement process were lack of knowledge in ICT use against E-procurement (79%), lack of record keeping (64%) and lack of regular training on procurement (72%). The study concluded that the Procurement process is still a problem in most public and non-public organizations in Tanzania. Further efforts in solving problems associated with the procurement process in our institutions should focus on regular training, on how to keep records and ensuring staffs are aware of ICT use/E-procurement. Strategies for minimizing factors affecting procurements should include improving ethical issues, ICT competencies and enhancing facilities and skills for the modern record keeping.

In Kenya, Mbae (2014) carried out research on how the law on public procurement influences the performance of the county government of Machakos. The data was collected using structured questionnaires and the analysis of the responses was done using the descriptive analysis. It was evident from the study that goods were procured faster and that county officers were more transparent, there was efficiency in the use of the funds at the county level, the quality of the products procured was high, the procurement staffs were more competent and well trained and there were avenues where procurement disputes were addressed as a result of the procurement law. It was also revealed by the study that the period of time required to procure goods the level of ICT implementation and the level of technicality in terms of the goods procured also has an impact on the process of procurement Other issues that affected the procurement process from the study were, ethical issues and that procurement staffs lacked transparency and were also dishonest in their operations.

1.2 Statement of the Problem

In a bid to promote the performance of the procurement sector, the PPADA (2015) and the PPDAR (2006) were implemented to guide procurement. However, in spite of these laws being enacted, public procuring entities have not strictly adhered to prescribed practices especially on the material specification (Gallaway, 2015) therefore causing poor procurement performance. Procurement audits by PPOA show that that out of 322 contracts audited at the end of 2015, only

Vol. 3, No. 11; 2019

ISSN: 2456-7760

7 (2%) were compliant on material specifications. Successive audit checks show that compliance in materials specification in Kenya is still low and inadequate (PPOA compliance reports, 2016,2017; PPOA Baseline survey report, 2016; PPOA Capacity Building Strategy Report, 2015-2016; World Procurement Country Procurement Assessment Report, 2015). This is also supported by a report by African Peer Review Mechanism Country Review (APRM) Report (2016), which indicates that noncompliance with the regulations on product specification is very high in Kenyan Public Companies. Despite this evidently low public procurement compliance on material specification, not much has been done in terms of ensuring that public entities comply with the procurement Act and the Regulation in Kenya and its effect on public procurement (Forsgren&Rahkonen, 2014). It is noted that state corporations tendering committees alter regulations to limit the involvement of bidders in procurement and sometimes may be directly involved in the outcomes of such bids (District Audit report 2010-2011).

Several studies have been done before in relation to the performance of procurement in organizations both in the international and local context. In a study on procurement aspects of introducing ICTs solutions in electoral processes, ACE Electoral Knowledge Network (2015) found that specifications provide a recognized and measurable reference for compliance, remove uncertainty and provide a clear benchmark the suppliers should meet. A previous study by Citeman (2009) on the advantages of specifications buying found that specifications buying is a necessary step towards industry-wide standardization and standardization helps a lot in cost-saving since it includes bidding from suppliers who know exactly what is required and increased competition proves very economical to the buyer in form of lower prices. It is of importance to note that the studies above were conducted in developed countries. A study by Musau (2015) on how the performance of procurement county governments in Kenya is affected by the macroeconomic factors, the study found out that the social, economic, political and legal factors affect the performance of procurement among the Kenyan county governments. Another study by Chimwani, Iravo, and Tirimba (2014) on factors affecting the performance of the State Law Office. The study found out that State Law Office showed a dismal performance on the five contributing factors of performance in the public sector namely: procurement procedures, records management systems, staff ICT qualification. Despite the past studies on procurement performance, not much has been specific on how material specifications affect the performance of procurement. In addition to this, none has been done specific in water and sewerage companies in Kiambu County in Kenya. This study therefore aimed at bridging this knowledge gap on the effect tender document specification on procurement performance in water and sewerage companies in Kiambu County in Kenya.

1.3 Research Specific Objectives

The study will be guided by the following objectives:

i. To examine the effect of tender document specification on procurement performance in water and sewerage companies in Kiambu County in Kenya.

1.4 Research Questions

The study seeks to answer the following research questions:

Vol. 3, No. 11; 2019

ISSN: 2456-7760

i. What is the effect of tender document specification on procurement performance in water and sewerage companies in Kiambu County in Kenya?

2. Literature Review

2.1Tender Document Specification

Tender documents are prepared for the purpose of procuring materials, production units, services, or site activities. They are used for calling the bids. A tender document usually consists of three parts, notice inviting tender, commercial specification, and technical specification. A tender document technical, commercial specification are the most important section of the tender document, both for the purchasing organization as well as for the bidders, since it is the specification which sets out precisely the scope, structure and characteristics are required from the materials, plant and equipment, services, or site activities being sought by the purchasing organization. The rolling of the PPADA (2015) and the PPDR (2006) have experienced a myriad of challenges among the Kenyan public institutions (Nyakundi, Kombo, Omari, Mongare, 2012). For procurement organizations to operate competently in such a complex environment useful structures such as document specifications need to be created and suitable mechanisms to ensure compliance put to use. Because of the Vigorous competition among suppliers, tender document specification in terms of specification scope and tender document evaluation helps public service institutions to obtain the greatest value for the money invested in the procurement of the goods and services. Conversely, when there is a proper tender document specification, procurement performance is boosted in that time is saved and only those suppliers that are competent and well-qualified tender. From a proper tender document specification, procurement officers can easily pick on the best from the list of possible suppliers, therefore, improving the quality of supplies and consequently improving procurement performance (Crawford, 2010).

2.2 Tender Document Specification and Procurement Performance

The material resource management, as well as the procurement procedures, are a set of mutually dependent, rationally linked and include sub-processes that are value-added, which in order to efficiently and effectively manage the business operations take place within the. There is need for the purchasing function to effectively and efficiently balance the materials resources available and the needs of a firm in a systematic manner (Deac, 2013). A tender is a bid made by a potential vendor in reply to a tender invitation. It forms a legal basis for the offer to supply products to an organization. Tender documents are prepared to seek tenders. Tender specifications help an organization attract only the vendors it desires and out of the uniform specification the organization will use to select a vendor. There is need to break down tender documents into different packages even in the case where only one contractor participates, where each has its own design drawings and specifications that can be issued to prospective subcontractors by the main contractor. This results in tender easier to price by the contractor and also customers find it easier to do the tender comparison.

Competitive advantage is only practical when total quality principles are applied in the management of material resources and procurement: provision of desired, and in the desired quantity, at the preferred time, and at the lowest possible price. For procurement to achieve total

Vol. 3, No. 11; 2019

ISSN: 2456-7760

quality requirements, the process needs to be strategically and proactively focused and must successfully contribute to developing the overall strategies of the firm. (Jones & George, 2009). Quality procedures exist to provide technical specifications of a product and to determine the quality levels of the products supplied to a firm (Jones & George, 2009). In order to determine the quality levels, we select certain brands or refer to standards or documentation containing technical specifications where processes with certain traits or which have a significant influence on the quality traits of the final product, for example, parts used in a motor vehicle manufacturing industry (Baily et al., 2004). The overall strategies of a firm must include procurement strategies. Achievement of particular objectives and sub-processes are recognized within the procurement process and execution of material resources and pointers and tactics of performance control are established. According to Jones and George (2009) due to the strong impact of the process of procurement and management of material resources on compliance with the product requirements, controlling and establishing appropriate monitoring and measurement methods will have an important contribution to further improve the efficiency and effectiveness of the organization. The methods used to monitor, measure and analyze must demonstrate the ability to achieve the planned results and to comply with the organization's strategy. Performance is measured based on key performance indicators that must be established from the phase of designing the procurement process. If for reasons of feasibility, certain indicators cannot be measured and monitored, criteria will be established (Popa, 2013).

3. Research Methodology

3.1 Research Design

Descriptive research design was used since both quantitative and qualitative data were used to assess the effect of material specifications on procurement performance in water and sewerage companies in Kiambu County in Kenya. According to Mugenda and Mugenda (2003), descriptive research is preferable when the information sought on the current status of the phenomena to show "what exists" in relation to variables or circumstances in a situation. Saunders *et al.* (2008) discuss that descriptive studies help to collect the data and answer the research objects when you have clear vies about the concepts that you want to study. The study considered this design appropriate since it facilitated the gathering of reliable and accurate data.

3.2 Target Population

Mugenda and Mugenda (2003) define the population as the entity of a group of individuals or items in a study in any field of inquiry and have common features. The population of this study encompassed employees who are currently working in water and sewerage companies in Kiambu County in Kenya. The study population targeted a section of employees in water and sewerage companies in Kiambu County in Kenya regional offices which are divided into six administrative regions, namely: Northern, Eastern, North Eastern, Central, Southern and Western which are further devolved into 25 zones. According to the water services regulatory board in Kenya (2015), the companies have 983 employees. The study focused on a population of 983 employees who are involved in procurement and make decisions at various levels. Parttime and casual employees were excluded from this study.

The study stratified the population into the top, middle, and low-level management staff.

Vol. 3, No. 11; 2019

ISSN: 2456-7760

Table 1:Target Population

Description	Population			
	Top Management	Middle Level Employees	Low Level Employees	Total
Limuru Water and Sewerage Company	6	17	94	117
Kikuyu Water Company	3	15	89	107
Karuri Water and Sanitation Company	2	11	106	119
Ruiru Juja Water and Sewerage Company	6	19	97	122
Thika Water and Sewerage Company	8	21	129	158
Kiambu Water and Sewerage Company	8	17	106	131
Githunguri Water and Sanitation Company	3	13	98	114
Gatundu Water and Sanitation Company	3	27	85	115
Total	39	140	804	983

(Source: Water Services Regulatory Board, 2017)

3.3 Sampling Procedure and Sample Size

Sampling procedure refers to the technique or the procedure the researcher would adopt in selecting items for the sample (Kothari, 2004). This study used proportionate sampling because it was a convenient and bias-free selection method.

A sample for staff working in water and sewerage companies in Kiambu County in Kenya was obtained using guidelines given by Nassiuma (2001).

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

Where,

n = sample size

N = population

C = covariance

e = standard error

It is suitable to use a coefficient of variation that lies between the range of $21\% \leq C \leq 30\%$ and a standard error that lies between the range of $2\% \leq e \leq 5\ \%$. This study, therefore, took a coefficient of variation of 21% and a standard error of 0.05 (5%) out of a target population of 983, a sample of 259 was obtained.

Table 2:Sample Size

Description	Population			
	Top Management	Middle Level Employees	Low Level Employees	Total
Limuru Water and Sewerage Company	4	14	15	33
Kikuyu Water Company	2	13	15	30
Karuri Water and Sanitation Company	1	14	16	31
Ruiru Juja Water and Sewerage Company	4	13	16	33
Thika Water and Sewerage Company	5	14	16	35
Kiambu Water and Sewerage Company	5	14	16	35
Githunguri Water and Sanitation Company	2	14	16	32
Gatundu Water and Sanitation Company	2	13	15	30
Total	25	109	125	259

(Source: Water Services Regulatory Board, 2017)

Vol. 3, No. 11; 2019

ISSN: 2456-7760

3.4 Data Collection Procedure

This study used both primary and secondary sources of data. Semi-structured questionnaires were used to collect data. Questionnaires are ideal because they are effective data collection instruments that allow respondents to give much of their opinions in regard to the research problem, they are free from bias and researchers' influence therefore valid data was gathered (Mugenda & Mugenda, 2008). Secondary data source was past published scholarly articles explaining theoretical and empirical information on materials specifications issues.

3.5 Data Collection Instruments

Primary data was collected using semi-structured questionnaires which were ideal because it is easy to quantify and gives more expansive feedback than simple close-ended questions. Questionnaires give the respondents an opportunity to give much of their opinions concerning the research problem (Saunders *et al,* 2007). The researcher self-administered the questionnaire using a drop and pick method and did a follow-up for those respondents who chose to fill the questionnaires at a different time. The questionnaire was structured with both open-ended and close-ended questions addressing various aspects of the study variables.

3.6 Pilot Study

A pilot study is ideal for pre-testing the reliability of the data collection instrument by checking weaknesses in the design of the instrument (Cooper and Schindler, 2011). The researcher selected a pilot group of 30 individuals from Nairobi water and Sanitation Company which represents 12 percent of the sample. Nairobi Water and Sewerage Company was chosen since it had similarities with the target population hence was important to familiarise the researcher with the administration procedure and modification of any inconsistencies in the questionnaire.

3.7Reliability of the Instrument

Blumberg, Cooper, and Schindler (2011) explained the reliability of research as determining whether the study would truly establish its intention truthfully. In this study, Cronbach's (1951) alpha coefficient was used as a quality indicator of the scale items. This statistic has widely been used in research as a quality test indicator (Cho & Kim, 2014). Cronbach's alpha value of above 0.7 is considered as an acceptable threshold of questionnaire reliability (Hair *et al.*, 2010).

3.8 Data Analysis and Presentation

The researcher checked the filled questionnaire for completeness and consistency. Descriptive analysis of weighted means, standard deviation, relative frequencies, and percentages were used. SPSS version 24 was used for data analysis, it has descriptive statistics features that assisted in variable response comparison and give clear indications of response frequencies. ANOVA data analysis method was applied to analyze the data using open-ended questions where the respondents gave their opinions on the research topic.

Multiple regression analysis was employed to obtain an equation that summarized the research variables based on the regression model (Patton, 2002). This helped in determining the level of influence on the variables. The multiple regression equation for predicting effective material specifications was expressed as follows:

Vol. 3, No. 11; 2019

ISSN: 2456-7760

$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$.

Where;

Y = Procurement performance

$\beta 0$ = Constant Term

X1 = Tender document specification

X2 = Legal framework specification

X3 = Stakeholder specification

X4 = Staff competency

$\beta 1 \ldots \beta 4$= regression coefficient of four variables

ε = Error Term

4. RESEARCH FINDINGS AND DISCUSSIONS

4.1 Measurement of Tender Document Specification

Specification of materials also entails the quality dimensions of the product. Companies designing the descriptions of the materials must ensure that relevant drawings, required dimensions, and proper terms definitions are submitted and also complete. How tender documents are prepared may, in turn, have an influence on procurement performance. This study aimed to find out how different aspects of tender document specification are prepared. This is presented in table 3 below.1-Strongly Agree, .2- Agree, 3- Neutral, 4-Disagree and 5- Strongly Disagree.

Table3: Measurement of Tender Document Specification

Implementation of tender document specification	1	2	3	4	5	Mean	Std. Dev
Tender documents are prepared for procuring materials, production unit, services, or site activities	50.0	50.0	.00	.00	.0	1.50	.501
Our tender document usually consists of three parts, notice inviting tender, commercial specification, and technical specification	19.6	50.0	30.4	.00	.0	2.10	.700
Because of the Vigorous competition among suppliers, tender document specification helps public service institutions to attain the highest return value of their investment in the procurement commodities	19.6	30.4	50.0	.00	.0	2.30	.778
Tender document specification, procurement performance is boosted in that time is saved and only those suppliers that are competent and well qualified tender	30.0	40.0	10.0	10.0	.0	2.10	.945
Proper tender document specification, helps pick on the best from the list of possible suppliers therefore improving the quality of supplies and consequently improving procurement performance	49.6	40.4	10.0	.00	.0	1.60	.664
General average	33.7	42.1	20.1	2	0	1.92	0.72

Vol. 3, No. 11; 2019

ISSN: 2456-7760

From table 4 above 100 % of the respondents agreed that Tender documents should be prepared for procuring materials, production units, services, or site activities as this influences procurement performance. None disagreed (0%) that Tender documents should be prepared for procuring materials, production units, services, or site activities. Results indicate that 69.6 % of the respondents Agreed that tender document usually consists of three parts, notice inviting tender, commercial specification, and technical specification and this affects procurement performance.30.4 % remained neutral about tender documents usually consisting of three parts, notice inviting tender, commercial specification, and technical specification and its influence on the procurement performance. Nobody disagreed with tender document usually consisting of three parts, notice inviting tender, commercial specification, and technical specification and its influence on procurement performance. 50 % agreed that Vigorous competition among suppliers, tender document specification helps public service institutions to attain the highest return value of their investment in the procurement commodities thus influencing procurement performance. 50 % of the respondents were neutral concerning Vigorous competition among suppliers; tender document specification helps public service institutions to attain the highest return value of their investment in the procurement commodities influencing procurement performance. It was also found out that a majority of 70 % of the respondents agreed that tender document specification; procurement performance should be boosted in that time is saved and only those suppliers that are competent and well qualified tender help improve on procurement performance.10 % remained neutral about tender document specification and procurement performance being boosted save time. The minority (10 %) of the respondents disagreed that tender document specification, procurement performance should be boosted to save and only those suppliers that are competent and well qualified tender influence procurement performance. Further results showed that a majority of 90 % of the respondents agreed that Proper tender document specification, helps pick on the best from the list of possible suppliers, therefore, improving the quality of supplies and consequently hence improving procurement performance.10 % of the respondent were concerning this matter. It was found out that none disagreed that Proper tender document specification, helps pick on the best from the list of possible suppliers as it improves the quality of supplies and consequently improving procurement performance.

4.2 Tender Document Specification and Procurement performance

A tender document technical and commercial specification are the most important section of the tender document, both for the purchasing organization as well as for the bidders, since it is the specification which sets out precisely the scope, structure and characteristics are required from the materials, plant and equipment, services, or site activities being sought by the purchasing organization. Lack of a proper document specification may affect procurement performance as service delivery may not be as desired. It is for this reason that this study aimed at establishing the effect of tender document specification on procurement performance. Descriptive statistics of frequencies and chi-square tests were used to analyze the data. The results are presented in Table 4

Vol. 3, No. 11; 2019

ISSN: 2456-7760

Table 4: Association of Tender Document Specification and Procurement Performance

Count

		Tender document specification			
		Strongly agree	Agree	Neutral	Total
Procurement performance	Very great extent	9.6%	20.0%	0.0%	29.6%
	Great extent	20.4%	20.0%	10.0%	50.4%
	Moderate extent	20.0%	0.0%	0.0%	20.0%
Total		50.0%	40.0%	10.0%	100.0%

Pearson Chi-Square (89.854[a]) , df (4) Asymptotic Significance (2-sided) .000

Results showed that the majority (20.4 %) of the respondent strongly agreed that tender document specification influenced procurement performance to a great extent of while 20 % indicated that tender document specification influenced procurement performance to a moderate extent. Generally, results indicated that a majority of 50% strongly agreed that tender document specification influenced procurement performance. None of the respondents disagreed while only 10% were neutral that tender document specification influenced procurement performance.

The data was further statistically analyzed using the chi-square test at a 5% significance level. The computed chi-square value 89.854 and p-value=0.000 implied that there was a significant association between tender document specification and procurement performance. The implication of these results is that tender document specification should be effective so as to enable a supplier to meet expectations and this ultimately influences procurement performance.

4.3 Pearson Correlations

To determine the degree or strength of the linear relationship among the variables, Pearson correlation (r) was used. Linearity increases the predictive power of the model and the validity of the estimated coefficients. The study sought to determine the correlation between the variable in order to determine the strength of the relationship at a 1% significance level.

A correlation of r>+0.7 implies that the variable is strongly related negatively or positively.

Table5: Correlation

		Y	x1	x2	x3	x4
Pearson Correlation	Procurement performance (Y)	1.000	.198**	-.126**	.734**	.558**
	Sig. (2-tailed)	.	.001	.025	.000	.000
	Tender document specification (x1)	.198**	1.000	.083**	.266**	.136**
	Sig. (2-tailed)	.001	.	.100	.000	.018

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

Person correlation was used to determine the relationship between tender document specifications and procurement performance in water and sewerage companies in Kiambu

Vol. 3, No. 11; 2019

ISSN: 2456-7760

County, Kenya. The correlation coefficient was 0.198 with p-value (0.001) which was found to be significant at a 1% significance level this implies that there exists a strong positive relationship between tender document specifications and procurement performance in water and sewerage companies in Kiambu County. An increase in of use tender document specifications will lead to an increase in procurement performance in water and sewerage companies. Product description and specification aim to deliver goods that satisfy the customer at the most efficient and competitive cost. The results agree with (Koelsch, 2016) in his study on the effects of strategies adopted by companies to improve procurement performance, who found out that procurement performance, is improved if proper Product description and specification is employed in an organization. His results suggested that organizations had employed proper Product description and specification to ensure that procurement performance was achieved.

5. SUMMARY CONCLUSIONS AND RECOMMENDATION

5.1 Summary of Major Findings

5.1.1: Effect of Tender Document Specification on Procurement Performance

Product description and specification aim to deliver goods and services that satisfy the customer at the most efficient and competitive cost. Results indicated that a majority of respondents strongly agreed that tender document specification influenced procurement performance. The analyzed data implied that there was a significant association between tender document specification and procurement performance. Peerson correlation results indicated a strong positive relationship between tender document specifications and procurement performance in water and sewerage companies in Kiambu County, Kenya. This means that an increase in of use tender document specifications will lead to an increase in procurement performance in water and sewerage companies. The intercept and slope coefficients for the model showed that there is a statistically significant positive relationship between tender document specification and procurement performance in water and sewerage companies in Kiambu County, Kenya.

5.2 Conclusions of the Study

5.2.1: Effect of Tender Document Specification on Procurement Performance

The findings confirm that there is statistically a significant relationship between tender document specification and procurement performance. The conclusion of this study from the results is that tender document specification should be effective so as to enable a supplier to meet expectations and this ultimately influences procurement performance. Therefore, lack of proper tender document specification may lead to increased costs, lead times and quality issues. The results agree with (Koelsch, 2016) in his study on the effects of strategies adopted by companies to improve procurement performance, who found out that procurement performance is improved if proper Product description and specification when employed in an organization. His results suggested that organizations that had employed proper Product description and specification ensured that procurement performance was achieved.

Vol. 3, No. 11; 2019

ISSN: 2456-7760

5.3 Recommendations

Drawing from the research findings and conclusions discussed herein, the study makes the following recommendations that water supply and sewerage companies and other stakeholders can use:

5.3.1: Effect of Tender Document Specification on Procurement Performance

Water and sewerage companies should sustain to continually improve on their tender document specifications. This can be done by investing in proper research before invitation to tender in order to make sure tender document specification is done in the best way desired. Water and sewerage companies should be able to plan their tender document specification based on the information generated from research and therefore increase customer satisfaction by providing sufficient lead time dates, quality and cost reduction. Institutions should have clear specifications on the invitation for tenders, instructions to bidders, qualification criteria, conditions of contract, standard forms specifications, drawings and bills of quantities. Tender document specifications have a significant effect on procurement performance of water and sewerage companies.

REFERENCES

Ambe, I.M. & Badenhorst-Weiss, J.A. (2011). An exploration of public sector supply chains with specific reference to the South African situation. *Journal of Public Administration,* 46(3):1100–15.

Baily, P., Farmer, D., Crocker, B., Jessop, D., & Jones, D. (2004). *Procurement principles and management*. Pearson Education.

Chan, J.W.K.; Tong, T.K.L. (2012) Multi-criteria material specifications and end-of-life product strategy: Grey relational analysis approach. *Mater. Des*. 28, 1539-1546.

Citeman (2009) Advantages of Specifications Buying. *Operations Management.* Available at: https://www.citeman.com/7352-advantages-of-specifications-buying.html

Cooper, D.R. and Schindler, P.S. (2011). *"Business Research Methods",* 11th, edition. Irwin: McGraw-Hill.

Cooper, I. (2011). Which focus for building assessment methods: Environmental performance or sustainability? Build. Res. Inf. 27, 321-331.

Crawford, T. (2010). Communication and reputation in procurement auctions—Some empirical evidence. *Economics Letters*, *114*(2), 164-167.

Cho, S. W., Kim, S., Kim, Y., Kweon, J., Kim, H. S., Bae, S., & Kim, J. S. (2014). Analysis of off-target

effects of CRISPR/Cas-derived RNA-guided endonucleases and nickases. *Genome research*, *24*(1), 132-141.

Vol. 3, No. 11; 2019

ISSN: 2456-7760

Dahl, A.L. (2011). *A Method for Consolidation of Raw Material Purchasing Specifications To Achieve Quality Improvement and Leverage Spend In a Global Food Company*. MSc Thesis, University of Wisconsin-Stout.

Deac, O. (2013). Management of Procurement and Material Resources-A Guarantee for Quality I. Process-based Approach of the Management of Procurement and Material Resources. *Quality-Access to Success*, *14*(137).

Dryden, P. & Brownell, J. (2012). *Strengthening the purchase vendor management inventory*, Cornell University, Dublin.

Forsgren, P., & Rahkonen, T. (2014). Specification of customer and user requirements in industrial control system procurement projects. *Proceedings of 2014 IEEE International Symposium on Requirements Engineering (RE'95)*. doi:10.1109/isre.1995.512548

Gallaway, G. (2015). Delivering what your customer wants, needs, and/or can pay for. *IEEE Conference on Aerospace and Electronics*. doi:10.1109/naecon.1990.112883

Ivamba, S., S.(2016). *Challenges Affecting Procurement Processes In Public Organisations In Tanzania: The Case Study Of Parastatal Pensions Fund-Head Quarters-Dar Es Salaam*.

Jones, C., & George, X. (2009). Centralizing Public Procurement in China: Task environment and organizational structure. *Public Management Review*, *16*(6), 900-921.

Koelsch, G. (2016). What Makes a Good Requirement? *Requirements Writing for System Engineering*, 31-74. doi:10.1007/978-1-4842-2099-3_2

Kovács, A. (2014). Preparation of the Prime Specifications. *Enhancing Procurement Practices*, 351-362.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Lambert, D. (2011).*Supply chain management: processes, partnerships, performance* (3rd Ed.), the Hartley Press Inc., USA

Maghanga, F. (2011).*Logistics outsourcing practices among tea processing firms in Kericho County, Kenya,* Unpublished MBA Project, department of management science, University of Nairobi, Nairobi.

Mbae, L., N. (2014). *Supply Chain Law And Performance Of County Governments Procurement Performance In Kenya: Case Of Machakos County Government*. Nairobi, Ke: Mba Thesis University of Nairobi.

Vol. 3, No. 11; 2019

ISSN: 2456-7760

Mugenda, O. M., & Mugenda, A. G.(2003). *Research methods*.

Migiro, S.O. & Ambe, I.M. 2008. Rolling out of public sector procurement management and constraints: a case study of central municipality, North West province, South Africa. *African 3 Journal of Management*, 2(12):230–42.

Nassiuma, D. K. (2000). Survey sampling: Theory and methods. *University of Nairobi press: Nairobi*.

Nyakundi, E., Kombo, C., Omari, R., & Mongare, O. (2012). Challenges Facing Procurement Committees in Implementing the Procurement Act; A Case Study of Secondary Schools Procurement Committees in Kisii County, Kenya. *Elixir International Journal*, 9186-9191.

Oladinrin, O., Olatunji, S.,&Tomiwa, B. (2013). Effect of Supply chain management on Building Project Performance in Nigeria. *Journal of Maintainable Construction Technology*. 4. 48-62.

Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative social work, 1*(3), 261-283.

Popa, G. (2013). The Organization Function In The Management Of Public Procurement. *Buletin Stiintific*, *18*(2).

Public Procurement Procedures And Supply Chain Performance In State Corporations In Kenya. McCarthy, N.G. (2006). *Report of the Auditor-General*, Free State, Bloemfontein, 30 June: 1–7.

Randall, P. (2014). Ensuring clarity and minimising procurement risks in Petróleos Mexicanos through strong tender documents and model contracts. *Public Procurement Review of Mexico's PEMEX*, 117-133.

Saunders, P., & Bradbury, B. (2006). Monitoring trends in poverty and income distribution: data, methodology and measurement. *Economic Record*, *82*(258), 341-364.

Sheoraj, R. (2007). *The state of skills readiness in the South Africa public service: an overview of provincial and local government*. Master's thesis, University of Pretoria, South Africa.

Thomas, C. J. (2011). How the Nature of Product Differentiation Affects Procurement Competition. *SSRN Electronic Journal*. doi:10.2139/ssrn.1947120