

## THE EFFECTS OF SPECIFICATIONS OF GOODS ON PUBLIC PROCUREMENT PERFORMANCE IN TANZANIA: A CASE OF TANESCO HEADQUARTER

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### ABSTRACT

*The main purpose of this study was to examine the effects of specification of goods on the performance of public procurement. Specifically, two objectives of this study include; examining user involvement in preparation of specifications; and assessing how specification affect procurement performance. The study used case study design, and the methods used for data collection were questionnaire, interview guide and reviewing of relevant documents. Data were analysed by descriptive statistics for objective one; while objective two was analysed by performing binary regression model. The study found that, only two variables (specification by technical standards and the user involvement) were determined to have significant contribution on the performance of public procurement. In other words, user involvement and specifying product by technical standards have been shown to contribute significantly towards acquisition of the right product, one of the main aspects of procurement performance. Furthermore, the study shows that right products are more likely acquired by procuring entities when end users of the product are initially involved when preparing specifications for the products. The study concludes that, involving users in preparing specification leads to enhanced procurement performance by thirty-one times higher than not involving the end user. Based on the findings, the study recommends that preparing clear and unambiguous specifications is of vital significance.*

**Key words:** Specification, Procurement performance, Goods.

## 1.0 INTRODUCTION

### 1.1 Background of the Study

Public procurement is an essential function of economies. It has been attracting much attention since the allocated cash flows have major effects on the country's economy thus requiring careful management. Procurement budgets in many developing countries account for about 20 percent of government expenditure. Many governments have embarked on reforms in their procurement systems to streamline and harmonize legal and institutional framework (Kusi *et al.*, 2014).

Private and more importantly public procuring entities find themselves under constant pressure of procuring valuable goods while striving for cost reduction in the light of limited financial resources. Besides, in recent years the concern for environmental and social issues has grown and as a consequence has influenced the procurement realm. The need for economic efficiency, sustainability and consequently the need for innovation are thereby putting forward new procedures and approaches in the purchasing process. It can be particularly challenging for public procurers due to the wide range of products they are responsible for, while adhering to public procurement laws and policies (Klatt, 2015).

In Tanzania, the contract value of 23 sampled procuring entities with largest procurement expenditure had an annual value of TZS 6,311.06 billion for the financial year 2016/17. This is approximately 70% of the government expenditure in procurement (PPRA, 2017). However, several problems have been raised concerning procurement of inferior products or services (World Bank, 2003). To achieve the objectives of public procurement, there is a need of specifications or requirements description for goods to be procured clearly and unambiguously (Otter & Geddes, 2010).

According to Basheka & Mugabira (2010), developing proper specifications for goods and services is an inevitable task in procurement process. It is an assignment which strives for accurate specifications that results into reduction of costs. There are several consequences that institutions are likely to face when they are not specifying their products and services correctly when ordering. These consequences include high costs in form of dormant stocks, disruption of production process due to use of poor inputs as well as increasing in the wastage in the production process. In order to avoid these, appropriate and precious specification of products should be developed (Basheka & Mugabira, 2010).

Procurement specification is important in a manner that it must be clear and accurate. Ambiguity in the specification may result in inappropriate responses from potential suppliers. Poor descriptions of requirements may also mean that the product is not delivered as required. In order to ensure clear specification, it may be necessary to consult with the end users of the goods to be purchased, and ensure their requirements are incorporated into the specification (GSA, 2018)

Despite the importance of specification towards acquisition of right products, yet there is some negligence in providing adequate specifications on part of user department, hence acquisition of goods/services either, which do not function as required, of inferior quality, or perform shorter life span than expected (Mshanga, 2014). It is from this argument that this paper concentrated on examining the effects of specifications of goods on public procurement performance in Tanzania, specifically at TANESCO HQ, in Dar es Salaam.

## 1.2 Research Objectives

To address this study, the following two objectives were developed: -

- (i) To determine how user involvement in preparation of specifications enhances procurement performance
- (ii) To assess the effect of prepared specifications on public procurement performance

## 1.3 Research Questions

Due to the above objectives, the following specific questions were formulated:

- (i) To what extent user involvement in preparation of specifications enhance procurement performance?
- (ii) How does the prepared specification affect public procurement performance?

## 2.0 LITERATURE REVIEW

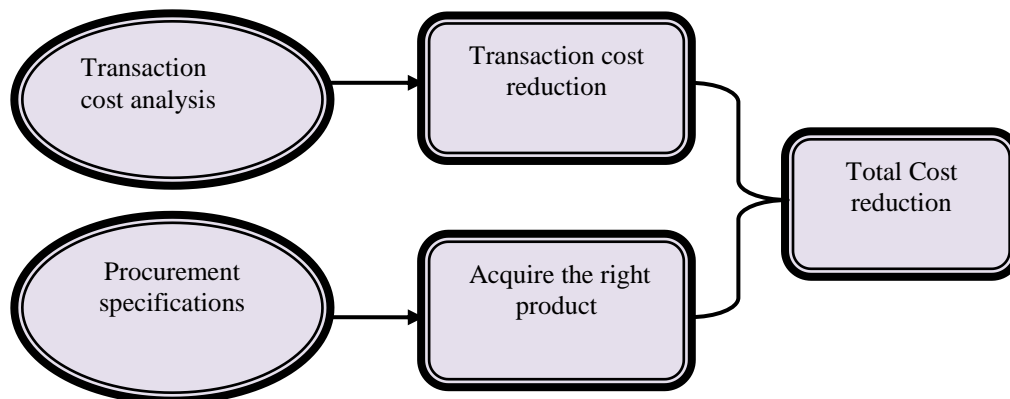
### 2.1 Theories Applied

For the purpose of this study, the following two theories are discussed:

#### 2.1.1 Transaction Cost Analysis (TCA)

Transaction cost analysis suggests that a firm can organize its activities to minimize production costs within the firm and transactional costs within the markets (Cao & Zhang, 2013). The decision to use either vertical integration or market mechanisms depends on the relative monitoring costs that arise from bounded rationality and uncertainties due to partner's self-interest and opportunism. Developing clear specification is also a basic significance which lies with the intention of reducing operational costs for procuring entity (Pysdek, 2013).

For this study therefore, it is maintained that the procuring entity may strive to ensure what is purchased is exactly what is required so as to reduce transactional costs. In that regard, clearly specified goods reduce procurement transaction costs as far as the TCA is concerned.



**Figure 1: Relationship between Transaction Cost Analysis and Specifications**

Source: Researcher's construction (2019)

#### 2.1.2 Resource Dependence Theory (RDT)

Barringer & Harrison (2000) describe that, RDT centers solely on the fact that resources must be acquired from external sources for a firm to survive or prosper. Firms must exchange with their environments to gain resources. The need for external resources makes the firm depend on others. However, to successfully manage dependencies, RDT argues that firms must gain control over vital resources to reduce reliance on others and increase others' reliance on the firm itself.

For this study, procurement of materials from the supplier is quite inevitable since the acquisition makes the buying organization to guarantee daily operations. However, if the procuring entity cannot reduce the extent of reliance to the supplier companies, it should make sure that, what is to be purchased is strictly accompanied with correct and unambiguous specifications. Basing on this fact therefore, striving for clear specifications when the buyer intends to acquire materials from external supplier companies is of vital significance.

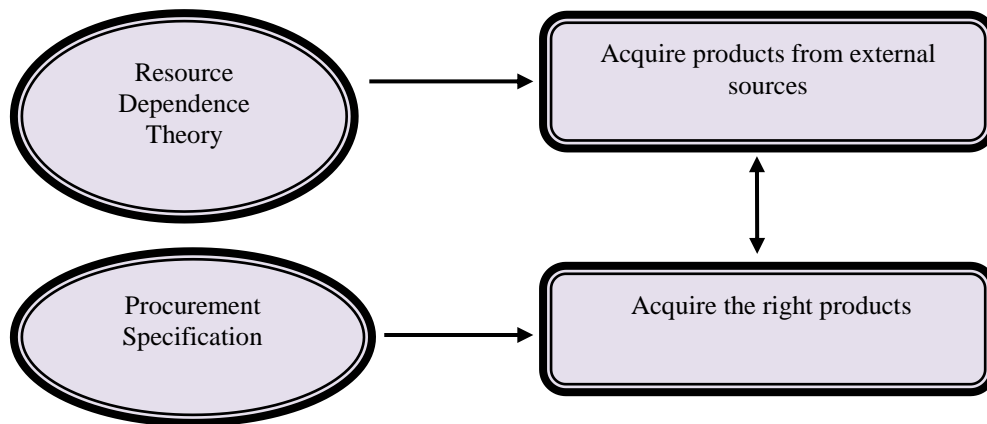


Figure 2: Relationship between Resource Dependence Theory and Specifications  
Source: Researcher's own construct (2019)

## 2.2 Conceptual Framework

Magigi (2015) defines conceptual framework as an end result of bringing together a number of related concepts to give a broader understanding. For this study, short explanation on variables is given below supported by the diagram to depict the relationship.

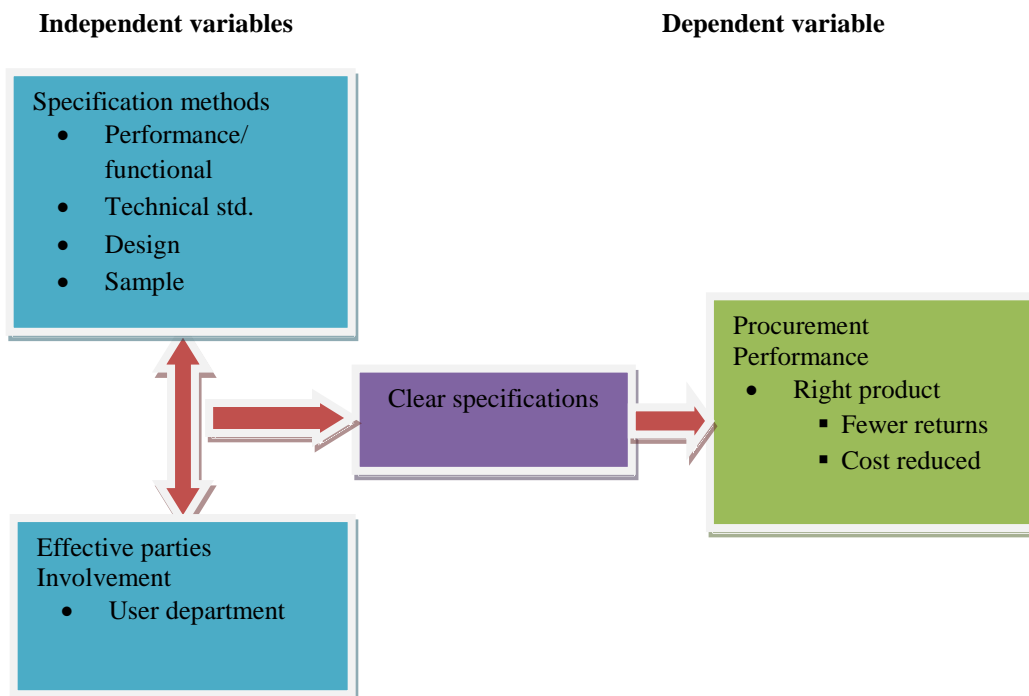


Figure 3: Conceptual framework  
Source: Researcher's construction (2019)

## 2.3 Relationship of Variables

The variables shown in the conceptual framework above (Figure 3) are divided into two aspects, the independent and dependent variables. Their description is as shown below: -

### 2.3.1 Independent Variables

The independent variable is a variable that stands on its own and is not changed by other variables one is trying to measure. It is the one that effects something else (Magigi, 2015). For this research, procurement specification as an independent variable has a direct influence on the overall performance of procurement function. However, this predictor variable is

divided into two parts; specification methods (by product performance, product design, technical standards, product sample) and the user involvement to make a total of five independent variables. These have been tested to predict the dependent variable – acquisition of right product.

### **2.3.2 Dependent Variables**

According to Magigi (2015), a dependent variable is the result or outcome of another variable. It is the one that is influenced by an independent variable. For this research, performance of public procurement function is expected to be the outcome of prepared specification. However, the study conducted by Luketero (2016), on the determinants of procurement performance, acquisition of right product was secondly ranked to have high score. It is from that observation that, procurement performance for this study was expressed by acquiring a right product. This has been measured on dichotomous variables of two responses – “agree” and “disagree”.

## **3.0 RESEARCH METHODOLOGY**

### **3.1 Research Design**

For this study, the researcher used case study design. This design was selected because it was very flexible when collecting data. This design allows the use of a combination of techniques such as interview, questionnaire and documentary review which then facilitated collection of in-depth data. It was also less time consuming as compared to other designs such as surveys and experimental design. Kothari (2004) defines research design as the conceptual structure within which research is conducted. It constitutes the blueprint for collection, measurement and analysis of data.

### **3.2 Sample Size and Sampling Procedures**

Sampling is the procedure a researcher uses to gather people, places or things for the study. It is a process of selecting a number of individuals or objects from a population such that the selected group represents the characteristics of the group (Orodho & Kombo, 2002). For this study, the researcher used purposive sampling as described below.

#### **3.2.1 Purposive Sampling**

This is a sampling that does not afford any basis for estimating the probability that each item in the population is included in the sample. Purposive sampling is also known as non-probabilistic sampling, whereby units to be included in the study are selected by the researcher himself (Kothari, 2004). For this study undertaking, the researcher chose respondents from TANESCO HQ Dar es Salaam, specifically procurement related staff purposely hoping that they are much knowledgeable with procurement specifications. The purposive choice of the respondents was done in order to successfully address the objectives of this study.

A sample size refers to the number of items to be selected from the universe to constitute a sample. An optimum sample is the one which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004). For this study, the researcher drew a total of 62 respondents from a total population. Since the total population at PMU (TANESCO HQ) was known, the *Yamane* formula was used to determine the sample size. TANESCO PMU with a population *N* of 75, and the level of significance, *e* of 5%, the sample size, *n* was determined as 63 in total. Unfortunately, after distribution of the 63 questionnaires, 51 of them were returned, and only 47 were sufficiently filled in.

### **3.3 Data Collection Methods and Instruments**

Data collection refers to the gathering of information to serve or prove some facts. In research, it is collected to further a researcher’s understanding of a puzzling issue (Kombo and Tromp, 2006). Under this study, the researcher used questionnaire, interview and documentary review as a means of collecting primary data. Description of the methods is given below.

#### **3.3.1 Questionnaire**

Kothari (2004) maintains that a questionnaire consists of a number of questions printed or typed in a definite order on a form or forms. To determine the contribution of specification on the performance of procurement, this study used questionnaire technique to collect data because the method is in position to dispel any fear or bias a respondent would have in the presence of the researcher. This is because, questionnaires were only distributed to the PMU staff, user departments and HoD’s at TANESCO; who are mostly the members of the tender board as described in the PPA 2011 and the PPR 2013.

#### **3.3.2 Interview**

There are two types of interview which are commonly used in social research, structured and unstructured interview. In structured interview, questions are asked in a standardized format. Unstructured interviews are formulated without a guided format of questions (Magigi, 2015). For this study, the researcher used unstructured interview. This kind of technique was used whenever there was a need to access more data on a specific aspect by clarifying a question to the respondent to

enhance more understanding. However, an interview guide was put in place to ensure important questions are asked so as to capture additional information that questionnaire tool was unable to address.

### 3.4 Data Analysis

In this study, analysis of data involved both qualitative and quantitative techniques. To facilitate the analysis, the Statistical Package for Social Sciences (SPSS) software Version 20 was used. Specifically, the following is the analysis for objectives:

#### 3.4.1 Objective (i):

In order to examine user involvement towards procurement performance, this study used descriptive statistics (multiple responses technique) whereby frequency for each category and its respective percentage (%) was computed and presented in a tabular form. This objective is qualitative by nature hence respondents were asked to tick (✓) only the most response that describes their choice. Prior to that, multiple responses of categorical variables of “Yes” and “No” were coded into the SPSS.

#### 3.4.2 Objective (ii):

To assess the effect of specifications on public procurement performance; the Binary Logistic regression was performed. Procurement performance was measured by acquisition of right product. The model was selected because the dependent variable was dummied on “agree” and “disagree” to command the SPSS to run the model. The model equation is expressed as follows:

$$(Pr)(Y = 1/x) = \beta_0 + \beta_1Pp + \beta_2Pd + \beta_3Ts + \beta_4Sa + \beta_5User + \varepsilon_1$$

Whereby;

Pr	=	Probability of occurrence
Y	=	Procurement performance
$\beta_0$	=	Constant coefficients
Pp	=	Product performance
Pd	=	Product design
Ts	=	Technical standards
Sa	=	Sample specification
User	=	User involvement
$\beta$ 's	=	Coefficients to be estimated from the model
$\varepsilon$	=	is the estimated error in the model

## 4.0 FINDINGS AND DISCUSSIONS

### 4.1 User Involvement towards Public Procurement Performance

The study inquired the extent to which users are involved in preparing specifications. The study then strove to identify how user involvement enhances public procurement performance. Variables under this objective were acquisition of the right product, fewer returns of product to the supplier and reduction of acquisition cost. Table 1 below summarizes the findings.

**Table 1:** User involvement towards public procurement performance

VARIABLES	Mean	Median	S.D	Maximum	Minimum
User involvement lead to acquisition of right product	4.09	4.00	1.248	1	5
User involvement results to fewer returns	4.02	4.00	1.225	1	5
User involvement reduces cost	3.94	4.00	1.063	1	5
Overall mean	4.01				

Source: Field data (2019)

The results in Table 1 above indicate that the overall mean for user’s involvement towards public procurement performance was 4.01. This mean was found to be above the average of 3.0 (neutral) implying that users perceive the involvement as high, and hence respondents agreed that involving the user when preparing specifications for goods enhance procurement performance. The performance was expressed in terms of acquisition of right products, fewer returns and reduction of acquisition costs. However, for the purpose of this study, much discussion is put on the acquisition of the right product since it was the main variable of procurement performance, and still, it is the one having highest mean score of 4.09 compared to the rest of the variables (Table 1). It can therefore be summarized that user involvement when

preparing specifications for goods enhances acquisition of the right products.

The study conducted by Baxter *et al.* (2012) also emphasizes the importance of involving end-user in preparing specification. The study articulates that, if the intention is to acquire the exact product from the supplier key people who can contribute to successful preparation of the specifications include procurement staff (PMU), technical officers, project officers and end user of such a product. Developing clear specification requires consultation with many stakeholders as mentioned earlier but attention should be on fulfilling the exact requirements specified by the end-user.

Besides, the researcher conducted interview to gauge respondent’s comments on involving end-user when preparing specifications at TANESCO. One of the staff responded with additional insight that,

*“Firstly, users of the product are the ones who prepare the PR (Purchase Requisition forms) and that cannot be skipped since it is a legal requirement in the Public Procurement Act. They need to fill some technical information in the PR, failure of which, we may lead to procuring wrong products. However, the challenge is that the users of the product have sometimes been delivering general (incomplete) specifications via PR that cause delay of procurement procedures as we have to strive for clarity first...”*

Interview held on 29<sup>th</sup> May, 2019.

#### 4.2 Effect of Specification on Procurement Performance

Basing on this objective, the researcher used binary logistic regression to determine the extent to which four (4) independent variables predict dependent variable – procurement performance (acquiring right product). Table 2 summarizes the findings.

**Table 2: Results from Binary Logistic Model**

VARIABLES	B	S.E.	Wald	Sig.	Exp(B)
FTstandard	2.729	.948	8.290	.004	15.313
FPPperform	.380	.624	.372	.542	1.463
FSample	1.256	.656	3.668	.055	3.510
Fuser	3.455	1.061	10.610	.001	31.671
Constant	2.835	.912	9.652	.002	17.026

Source: Field data (2019)

Results in Table 2 indicate that, the independent variables under this study were specification methods (technical standards, product performance, product sample) and user involvement towards enhancing procurement performance. In that regard, the table shows that only two independent variables contributed significantly to predict the dependent variable – procurement performance (acquiring the right product). These two independent variables are FUser (with Sig. value of .001) and FTstandard (with Sig. value of .004). In other words, user involvement and specifying product by technical standards have been shown to contribute significantly towards acquisition of the right product, an aspect of procurement performance. The variables labelled specifying product by sample (Sig. value .055) and by product performance (Sig. value .542) have not contributed significantly to this model, because their sig. values are greater greater than .05.

Furthermore, Table 2 provides B values that show the probability of case falling in specific group of category, by depending on their positivity (increase of probability) or negativity (decrease of probability). Negative B value of independent variable indicates the decrease of probability of occurrence in the dependent variable; whilst the positive B value of independent variable results to an increased probability of occurrence of dependent variable. For this study, however, both B values with significant contribution to the model are positive (See B value column against the two predictors). In that sense, the increase of the user involvement in preparing specification (3.45) and the increase of the use of technical standard as a method of specification (2.73) will positively increase the likelihood of realizing procurement performance - acquiring the right product.

Lastly, another crucial information is also shown in Table 2, specifically at Exp(B) column. The column shows that, respondents who agreed that involving user in preparing specification results to enhanced procurement performance is 31.67 times higher than a respondent who stated the opposite – user involvement does not contribute to procurement performance, all other factors kept constant. Meanwhile, respondents who asserted that using technical standard as a method of specification results to procurement performance (right product) is 15.3 times higher than a respondent who said the opposite. A summary speaking is that, the two variables has greatly contributed to this model.

## 5.0 CONCLUSION AND RECOMMENDATIONS

### 5.1 Conclusion of the Study

The study has determined that, TANESCO commonly uses technical standards in procurement of goods. The need to precisely draft clear procurement specification has been also noted to be of crucial significance. Clear specification has been identified to enhance procurement performance as far as acquisition of right product is concerned. However, the study insists that, users of the product should be closely involved in the whole procurement processes.

### 5.2 Recommendations of the Study

Under this part, the researcher presents some recommendations regarding findings of this study as discussed in previous chapters. The researcher hopes that the presented recommendations are going to be useful to procurement stakeholders as summarized below:

#### 5.2.1 To the government

The government has been struggling for better health, education, water system, infrastructure, security and so forth. It is approximated that more than 70% of government budget has been channeled to this kind of public procurement service. In that sense, the researcher calls for effective and clear specifications when executing government procurement assignments.

#### 5.2.2 To TANESCO

Tanzania Electricity Supply Company (TANESCO) was the study area. Based on these study findings, involving end user of product when preparing specifications should be maintained as it fosters acquisition of right product as shown in previous chapters of this study. Even though, the entity's user departments have been giving vague (incomplete) description of materials requirements. It is therefore a call to have sensitization seminar to staff at TANESCO on a clear way of presenting specifications of goods they intend to procure.

### 5.3 Suggestions for Future Researchers

This study has tried its best to explore more insights related to procurement specification for goods. However, even to that extent, this study has been not self-sufficient on the topic. This study can be extended to cover common techniques used for specifications for services which have not been covered by this study. Furthermore, another research can be done to discover the effects of specification on the performance of procurement function in terms of cost reduction, efficiency and so forth. It should be remembered that this study expressed procurement performance in terms of acquisition of the right product only.

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