

Factors influencing Procurement Performance

The case of Dire Dawa Public Procurement and Property Disposal Services (PPPDS)

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DOI: 10.29322/IJSRP.9.10.2019.p9478
<http://dx.doi.org/10.29322/IJSRP.9.10.2019.p9478>

Abstract

This research aims to examine factors influencing public procurement performance the case of Dire Dawa Public Procurement and Property Disposal Services. Based on literature reviews, the researcher identified four factors that affect the procurement performance. These includes: procurement planning, competency of staff, procurement procedure and Information Communication Technology on procurement. The hypothesis of the study was the procurement factors (independent variables) affect the procurement performance (dependent variable) of PPPDS. The research design is made based on descriptive and explanatory research approaches. The researcher distributed 64 questionnaires and 58 were filled and returned. Both primary and secondary data were used throughout this research. For primary data, both structured and semi structured type questionnaires were prepared. The results of this study indicate that the independent variables (Procurement Planning, Competency of Staff, Procurement Procedure and Information Communication Technology) positively affect the dependent variable (procurement performance) to a significant extent.
Key words: Procurement Planning, Competency of Staff, Procurement Procedures, Utilization of Information Communication Technology.

INTRODUCTION

Public procurement is an important government system for spending public money on acquisition of goods, works, and services needed for public programs and projects. Procurement comprises: (i) preparation of annual budget when government agencies have to estimate their needs, (ii) procurement planning following budgetary allocation, and (iii) execution of procurement plans. Procurement plans are implemented using a procurement cycle that includes tendering or bidding, contract award, and contract management. The main objective of these activities is delivery of quality and timely services to citizens through public programs and projects, implementation of which is supported by public procurement (Bynaushad,2018)

Public procurement is a key tool to promote objectives of an economic, environmental and social nature gaining much attention globally over the past decades. In developing countries, it is one of the main instruments to the achievement of development goals such as reducing poverty and providing health, infrastructure, education and other services hence immensely contribute to best utilization of public resources. Procurement budgets in developing countries account for about 20 percent of government expenditure globally and many governments have embarked on reforms in their procurement systems to streamline and harmonize legal and institutional framework (Mlinga, 2009).

According to Abebe (2014) there are empirical evidences in Sub Saharan African Countries that out of the total public resources, procurement of goods, works and services account for about 70 percent of the total public expenditures. Likewise, he posited that the amount of procurement of goods and services in Ethiopia accounts more than 60 percent from the total public expenditure.

Improving the public procurement system will obviously impact substantially on the growing economy of Ethiopia which will result in budgetary savings and efficiency in government expenditures, thereby creating wealth and reducing poverty (Tesfahun, 2011).

According to World Bank CPAR (2002), even if the above rules and regulations have been enacted, successive review of the public procurement regimes in Ethiopia reveal a lot of short comings such as procurement laws and regulations are not based on recognized international models, absence of clearly defined central oversight and public bodies at all level, shortage of experienced management and procurement staffs, lack of transparency in the procurement processes, absence of procedures for modern form of procurement activities and unclear institutional and organizational arrangement required in the management of the public procurement process.

It is in the light of these challenges that the Federal Government of Ethiopia Procurement and Property Administration Proclamation No 649/2009 were enacted by parliament replacing the previous procurement laws. The government is the main provider of essential services such as health, education, defense and infrastructure. This is done through procurement function, making it to be very important, and the sheer magnitude of procurement outlay has a great impact to the economy and needs to be well managed.

In a developed or developing country, employees who work on public procurement have and will face always many challenges. Some of them are lack of employee's competency in the area of procurement profession, using IT in procurement activities is very minimal, and preparing procurement plan is very poor. Each country has its own economic, social, cultural and political environment, and each country's public procurement experts face different types of challenges, or the same types of challenges but at different levels from their counterparts in other countries (Callender and Mathews, 2000).

Public procurement is an important function of government for several reasons. First, the sheer magnitude of procurement outlays has a great impact on the economy and needs to be well managed. Indeed, in all countries in the world, estimates of the financial activities of government procurement managers are believed to be in the order of 10% - 30 % of GNP. Efficiently handling this size of procurement outlays has been a policy and management concern as well as a challenge for public procurement employees (Khi V. Thai, 2004). Public Procurement procedures are also decision making processes. The procuring authority has to compare the proposals (submitted in response to a contract notice) against pre-set criteria and needs to choose one of them or reject all of them. The decision logic of procurement can be characterized as "One Winner" selection process from known alternatives, where the alternatives are compared at the same time using a previously determined, and unified criteria system. Procurement procedures are also group processes, and negotiations among the stakeholders is an essential part of completing the task (Thai, 2001).

The recognition of procurement as a critically important area in both public and private sectors has focused the attention on its effectiveness and efficiency. In a growing number of companies, cost effective procurement has become a matter of survival as purchased goods and services can account for big per cent of their budget. Similarly in the public sector, there is an ever-increasing demand for effectiveness and efficiency in the procurement process (Callender and Mathews, 2000). Consequently, in most developing countries, the procurement function is transitioning from a clerical non-strategic unit to an effective socio-economic unit that is able to influence decisions and add value. Developing countries in one way or another have reformed their public procurement regulations. The reforms have not been limited to regulations only, but included public procurement process, methods, procurement organizational structure, and the workforce (Callender and Mathews, 2000).

Nonetheless, most developing countries are facing a problem of rapid changes in procurement requirements. The changes are impacting pressure on how the procurement function performs its internal and external processes and procedures in order to achieve its objectives. The ability to realize procurement goals is influenced by internal forces and external forces. Interactions between various elements, professionalism, staffing levels and budget resources, organizational structure whether centralized or decentralized, procurement regulations, rules, guidelines, and internal control policies, all need attention and influence the performance of the procurement function (Gattiker, and Carter, 2000).

The basic element involves in performing the procurement function are obtaining the proper equipment, material supplier and service in the right quality, in the right quantity, at the right price and from' the right source in simple terms as Alijan described in his scholarly article for the issue at hand (Alijan, 1973).

Therefore, the focus of this study is describing the procurement practices as how they were conducted and what kind of challenges had occurred and has been occurring during procurement process and the resultant procurement performance. In addition, it is attempted to identify draw backs of procurement on achieving the overall objective of the organization.

2.Statement of the Problem

The procurement function has become increasingly important over the past decades since purchasing and supply has become a major determinant of corporate success. Significant business pressure as a result of globalization, innovations, technological changes, cost pressure, and regulatory compliance has forced the procurement function to focus on cost reduction and attaining more value for money (Khi V. Thai, 2004). The Procurement function usually takes large amounts of organizations' resources. Hence it is becoming an expensive undertaking for many organizations and if not properly done it can lead to significant regret (Chan & Lee, 2003).

In Ethiopia, More project works are being affected due to the lack of effective procurement process, which is the main cause of insufficient service delivery in all public sectors Anteneh, (2015). Furthermore, according to Gizachew, (2012), the Ethiopian public sector working program mostly extended to the coming years, due to the lack of effective procurement.

Ethiopian procurement manual (2011) counsels that a procurement plan is an instrument for implementation of the budget and should be prepared by the user departments with a view to avoiding or minimizing excess votes in the entities' budgets and to ensure that

procurements do not proceed unless there are funds to pay for them. This implies that all procurement plans must be well integrated into the budget process based on the indicative budget as appropriate and in compliance with the procurement law.

Mamiro (2010) found that indications which underscores these facts. He concluded that one of the major setbacks in public procurement is poor procurement planning and management of the procurement process which include needs that are not well identified and estimated, unrealistic budgets and inadequacy of skills of procurement staff responsible for procurement in his research entitled the limping pillar in public Procurement. Kakwezi and Nyeko, (2010) concluded in their findings that failure to establish performance of the procurement function can lead to irregular and biased decisions that have costly consequences to any public procuring entity. Thus, the focus of this study is examining the relationship between procurement performance and factors such as procurement planning, resource allocations, staff competency, information technology, organizational structure; procurement follow-up mechanism and procurement process in Dire Dawa public procurement and property disposal services(PPPDS).To this end the investigation attempt to answer the following research questions:

- 1.How procurement planning of other public bodies affect the performance of public procurement in PPPDS?
- 2.How staff competency influence public procurement performance in PPPDS?
3. How does procurement procedure influence public procurement performance in PPPDS?
4. What is the effect of adoption of information technology on the public procurement performance in PPPDS?

3. Literature Review

3.1 Meaning of Procurement

Procurement is a process of identifying and obtaining goods and services. It includes sourcing, purchasing and covers all activities from identifying potential suppliers through to delivery from supplier to the users. It is favorable that the goods/services are appropriate and that they are procured at the best possible cost to meet the needs of the purchaser in terms of quality, quantity, time, and location. In the same token, public procurement system was the process in which public sector institutions acquire goods and services. Public procurement systems are highly centralized and in some instances state procurement boards govern procurement. Purchasing could be seen as the specific function associated with the actual buying of goods and services from suppliers (Manga, etal, (2008).

According to the Ethiopian Public Procurement Proclamation (No 649/2009), procurement means "obtaining goods, works, consultancy or other services through purchasing, hiring or obtaining by any other contractual means." From the above definitions, the overall tasks of procurement is to obtain goods, works, consultancy services and other services at the right quality, in the right quantity, from the right sources, at the right time, place and price to achieve an organizational objectives.

Public procurement is a process, which the governmental entity hiring or purchasing works, goods and services from other parties Michael and Juanita, (2006). It includes starting from very small items (for example, stationary, puncher, office furniture, detergent, toner and others) to very complex items (for example aircraft, railway, boiler, transformer and others) and it helps to attain the need of public entity to carry out its duties. Tony, (2011) states that public procurement is acquisition of works, goods and services by public entities, whether under formal contractor or not and it ranges from the purchase of routine supplies or services to formal tendering and placing contracts for large infrastructural project.

According to Dobler and Burt (1998) procurement can be defined as "...the acquisition, whether under formal contract or other wise of goods, services and works from third parties by contracting authority. "

The public procurement process spans the whole life cycle from initial conception and definition of the needs through to the end of the useful life of an asset or the end of a contract. Before describing step-by-step how procurement should be planned and implemented by public bodies and supervised by the PPA, it is appropriate to establish why this topic is worthy of attention. This inquiry can be addressed by approaching it from four linked perspectives. The basic procurement policy directions in which these perspectives are embodied in and governed are:

- To ensure that works, goods, and services needed by a public body are procured with due attention to economy and efficiency;
- To ensure that the funds are used for the planned works, goods, and services;
- To provide equal opportunity for all potential bidders and consultants to compete for a contract;
- To encourage development of domestic contractors and manufacturers In the Federal Democratic Republic of Ethiopia; and
- To ensure that the procurement process is transparent.

Procurement consists of the whole processes of acquiring goods and services and it starts with identification of needs and preparing the procurement plan and the procurement method. It also includes risk assessment, identification and evaluation of alternative solutions, contract award and management, receiving the procured property or obtaining the services and settling of payments (Getnet A., and Tilahun A, 2014).

3.3 Procurement Performance

Procurement performance covers a number of quality and quantity-enhancing benchmarks, which narrows down transaction costs, time spent, and the quality and quantity of goods delivered. Based on their analysis on the performance of public procurement officers, procurement performance entails high returns on investment, reduced transactional costs, faster delivery of services and supplies,

delivery of high quality purchases, and streamlined supply chains (Odhiambo & Kamau, 2003). Procurement performance in the modern world entails all successful IT-powered procurement undertakings that deliver great value that can enhance the long-term socioeconomic welfare of the target population, reduce greenhouse gas emissions, enhance community productivity, builds the target population's innovation capacity, and most importantly, fulfills the target population's day-to-day life interests (Awiti and Bohnstedt, 2008). Furthermore, Awiti (2008) and Odhiambo & Kamau (2003) in their analysis of the performance of several organizations' procurement departments in the business world found that best practices in procurement fall into two broad categories of transaction costs and the level of the utility of the goods procured. These are two critical areas given that during hard economic times organizations must consider every avenue for cutting costs in order to survive while at the same time acquiring the most adequate supplies that can cover their short-term and long-term production needs.

Van Weele (2006) maintained that there is a link between procurement process, efficiency, effectiveness and performance. Procurement performance starts from purchasing efficiency and effectiveness in the procurement function in order to change from being reactive to being proactive to attain set performance levels in an entity. Performance provides the basis for an organization to assess how well it is progressing towards its predetermined objectives, identifies areas of strengths and weaknesses and decides on future initiatives with the goal of how to initiate performance improvements. Procurement performance is not an end in itself but a means to control and monitor the procurement function. For any organization to change its focus and become more competitive, performance is a key driver to improving quality of services.

Batenburg and Versendaal (2006) noted that use of inappropriate means can be a barrier to change and may lead to deterioration of procurement operations. Organizations which do not have performance means in their processes, procedures, and plans experience lower performance and higher customer dissatisfaction and employee turnover. Measuring procurement performance yields benefits to organizations such as cost reduction, enhanced profitability, assured supplies, quality improvements and competitive advantage. Electronic processes have replaced physical and paper-based processes. E-procurement moves tendering, negotiation and purchasing processes to websites. Improvement to a PE's procurement performance can be realized through reduced costs and wider choice availed.

3.4 Factors affecting Procurement Performance in Public Sector

3.4.1 Procurement Planning and Procurement performance

Procurement planning is one of the primary functions of procurement with a potential to contribute to the success of public institution's operations and improved service delivery Basheka, (2008). Despite this importance, very limited scientific research has been done to examine the extent to which efforts in procurement planning can contribute to effective public institution's performance. Procurement Planning entails the identification of what needs to be procured, how the organizations needs can best be met, the scope of the goods, works or services required, what procurement strategies or methods to be deployed, setting the time frames, and the accountability for the full procurement process. According to Industry Manual, (2008) counsels that a procurement plan is an instrument for implementation of the budget and should be prepared by the user departments with a view to avoiding or minimizing excess votes in the entities' budgets and to ensure that procurements do not proceed unless there are funds to pay for them. This implies that all procurement plans must be well integrated into the budget process based on the indicative budget as appropriate and in compliance with the procurement law.

3.4.2 Procurement Procedures and Procurement performance

Procedures are operating instructions detailing functional duties or tasks. According to Saunders (1997), the division between public and private sectors creates two different worlds, requiring different approaches to procurement. Public ownership imposes obligations with regard to public accountability, leading to prescribed procedures and policies. All steps of the procurement cycle must be properly documented with each step being approved by the designated authority. Baily, Farmer, Jessop and Jones (2005) argued that public procurement procedures tend to be characterized by high levels of bureaucracy independent of order value; poor communications and focusing on unit price rather than long-term relations. Procurement perceptions are affected by the existing organizational structure, quality of internal communication system, past experience and resources available. A procurement policy may define the approval process for contracts of varying cost levels and may include role of purchasing, conduct of procurement staff, buyer-seller relationships, and operational issues. Without elaborate and effective procurement procedures Government policy objectives would fail to meet the desired objectives.

3.4.3 Information Communications Technology and Procurement performance

Saunders (1997) reckoned that personnel in procurement are, in a sense, information processors. They receive, analyze, make decisions and distribute information in order to manage the flow of goods and services in the SC. ICT is an enabler for information sharing which organizations in the procurement system can use for eliminating bloated inventory levels caused by cumulative effect of poor information cascading up through a SC. Daugherty, Myers and Autry (1999) averred that information integration is also a key component in many automatic replenishment programs (ARP). Initiatives such as vendor managed inventory (VMI) and collaborative planning, forecasting and replenishment (CPFR) are based on an increased level of automation in both the flow of physical materials, goods and associated information between companies to improve the efficiency in the entire system. It shortens information processing time and tremendously improves procurement performance. Process integration can enhance procurement performance. ICT provides new ways to store, process, distribute and exchange key information with customers and suppliers in the entire procurement system.

3.4.5 Staff Qualification and Procurement performance

Saunders (1997) believed that successful functioning of organizational structures and effective operation of planning control systems is dependent on the quality and ability of staff employed. Strategic plans should include information on the acquisition, development, use and reward of human assets. Plans need to take into account the current state of development of the procurement function and the strategic direction in which its state might change. Multi-skilling provides employees with a variety of skills and should be developed extensively. Training is beneficial and generates more than the equivalent cost in payback. To further the goals of valuebased management, all employees need broad and continuous education and training. Education, training and professional development should be skill, process oriented and continuous.

Leenders and Fearon (2002), noted that the large number of items, huge monetary volume involved, need for an audit trail, severe consequences of poor performance, and the potential contribution to effective organizational operations associated with the procurement function are five major reasons for developing a sound, professionally managed procurement system. They further argue that qualifications are crucial for value-based management which requires employees to assess and improve processes while contributing to team performance. In addition, qualifications enhance staff ability to perform, enabling them to make better decisions, work as a team, and adapt to change, while increasing efficiency, quality, productivity and job satisfaction. Training is often for improving immediate work while education develops people for the long term. To enable individuals to create value consistently, both education and training are needed.

Cousins (2003), stressed that with the ever increasing popularity of purchasing partnership philosophy, organizations must take a closer look at the educational levels of procurement staff. With procurement's perceived movement from a clerical service to a strategic business function, the caliber of staff in terms of training, education and skills must increase to fulfill its strategic potential. The author asserted that employees need to learn new skills for improving work performance.

Baily *et al.* (2005) propounded that knowledge of the mission, the existence of top-down objectives with related performance measures, and process guidelines link individual or group performance to the firm's goals and expectations of upper management require good qualifications. The use of teams, cross-functional managers, broad process and linkage oriented job responsibilities, and extensive information systems enable individuals to balance conflicting objectives and improve processes. Professional qualifications are the fulcrum around which performance turns. Without well-motivated, able and well trained staff, even the more brilliantly conceived plans and strategies can fail. A motivated team whose members work for and with each other can beat a team of less motivated people even if they are greater in talent. To improve procurement performance, it is essential to understand the roles that are to be performed, the standards to be achieved and how performance is evaluated.

Understanding is what allows an employee to become an innovator, initiative taker, and creative problem solver in addition to being a good performer on the job, Goetsch & Davis, (2006). They list benefits of training as improved productivity, quality, safety and health, communication and better teamwork. The value-based procurement management paradigm requires a rethinking of the management of human resources. Education must cross necessary boundaries and motivate procurement team performance. However, simply possessing knowledge is less important than applying it. Attention should be moved to skills of doing jobs and demonstrating competences.

3.5 The five key purchasing variables

3.5.1 The Right Quality View

It can be defined in many ways but of the purpose of material purchasing. Specifications where the buying organization lay down clear and ambiguous requirements that must be met. The specification of the product, not the application Bail p. et al (1998). This implies reducing unnecessary varieties and standardizing to the most economic sizes, grades shapes, colors, types of parts and so on Gopalakshan p. and Sundaresan. M. (,2002).

3.5.2. The Right Quantity

Regular requirements are brought either for stock or else for direct use in operations or production. Requirement quantity can be aggregated or sub divide in various ways, and the quantity notified to the purchasing department as required is not necessarily the same as the quantity the department order from supplier.

Ordering policies used by purchasing include:

Blanket order which group many small requirements together for contracted purposes.

Period contracts stating an estimated total quantity for the period and agreed price in conjunction with call off order which states delivery date and quantity.

Period contracts which specify a series of delivery dates and quantities.

The economic order quantity (EOQ) etc Bail p. et al (1998).

Other methods in stock control

Reorder level methods of stocks control are procedures in which, whenever the stock of an individual item is down to a quantity called reorder level (order point) and order is initiated to obtain more stock. The order level is the average quantity required in the lead time plus buffer stock Bail p. et al (1998).

3.5.3. The Right Time

The recognition of „time“ as a key variable and the need to minimize time as waste in the supply chain has led to an increased degree of concern with time and responsiveness in recent years. The achievement of delivery on time is a standard purchasing objective. If good and materials arrive late, work is not completed at the right time, sales may be less, production halted, and damage clauses may be involved by dissatisfying customers. To improve this problem:

- The first step is to decide firmly and precisely what is required and when it is required the requirement dates notified to the purchasing department are achievable, purchasing can properly be expected to go out and achieve them.
- The vital step in achieving on time delivery is to ensure that supplier know and fully aware that on-time delivery is an important element in their marketing max Gopalakshan p. and Sundaresan. M. (,2002).

3.5.4 The Right Supplier

- The supplier have a strong enough financial base/financial capacity.
- Competency (the supplier, its people or its process competent and has adequate man-power to handltheorder)
- The supplier in a position to honor the commitment without much follow- upBail p. et al (1998).

3.5.5 The Right Price

The product or service offered at a competitive and reasonable price i.e. Market Price.Bail p. et al (1998)

3.6 Conceptual Framework

According to Bogdan and Biklen (2003) a conceptual framework is a basic structure that consists of certain abstract blocks which represent the observational, the experimental and the analytical/synthetically aspects of a process or system being conceived. The interconnection of these blocks completes the framework for certain expected outcomes. A variable is a measurable characteristic that assumes different values among subjects. Independent Variables are changes that occur in an experiment that are directly caused by the experimenter. The independent variables in this study are procurement related procurement planning, staff competency, procurement procedures, and utilization of information communications technology. Procurement performance is a function of several variables is presented in dependent variable. Both independent variable and dependent variable are depicted in figure 2.1 below:

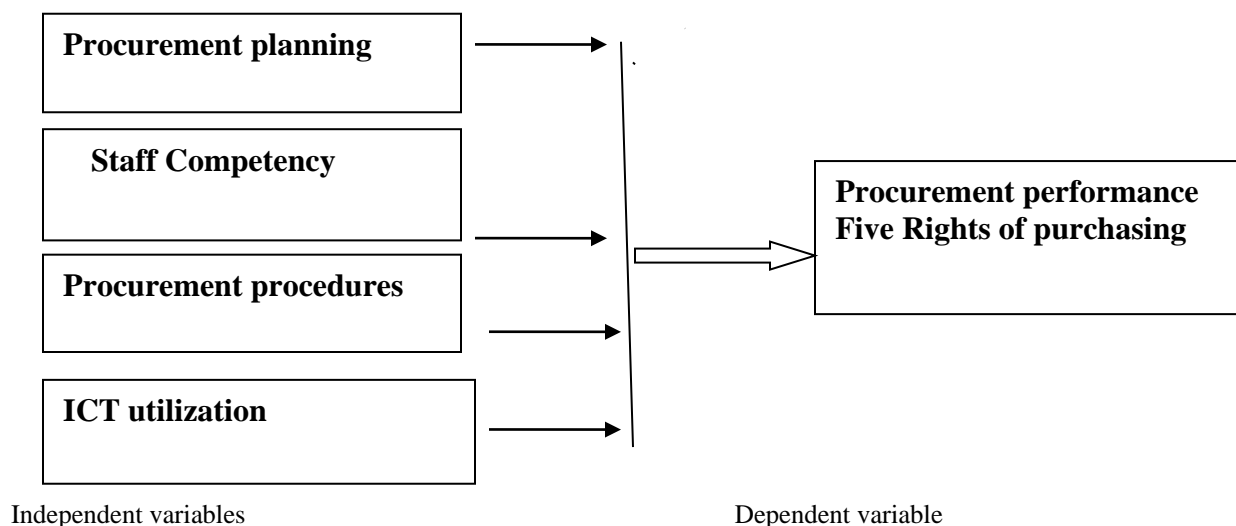


Figure 3.1 Conceptual Framework

Source: this model is adapted and modified from Kiage, J. O.(2013)

4. Research Methodology

This section covers the following sub sections: the research design, the target population, sample design which contains sampling techniques, data collection instruments and data analysis and presentation technique.

4.1 Research Design

The study adopted quantitative research method. The researcher followed a descriptive inquiry along with causal research design to examine the influence of one variable over other. The design is used to describe the characteristics of the independent variables (procurement planning, staff competency, procurement procedures and resource allocation & Information Technology and the dependent variable/procurement performance.

4.1.1. Target population

Target population refers to the larger population to which the researcher ultimately would like to generalize the results of the study Mugenda, (2003). The population of this research was all employees of procurement and property disposal service and public organizations including Bureaus.. Target population of the study was all staffs (30) working at procurement directorate and contract management directorate of PPPDS, which are directly or indirectly involved in procurement process by taking the data from Human

Resource Department of PPPDS. There are 52 public organizations including Bureaus which are benefited from PPPDS procuring goods and service. The researcher focused on all 52 organizations those are located in Dire Dawa.

4.1.2. Sampling Frame

The sample frame of this study was procurement directorate and contract management directorate of PPPDS. The procurement/purchasing department of Public organizations found only in Dire Dawa where included in the sampling frame of this study.

4.1.3. Sampling Unit

The researcher will have to decide one or more of sampling that he has to select for his study Kothari, (2004).The sampling unit of this study was managers and staffs who are working on procurement and related activities in PPPDS and the selected organizations managers.

4.1.4. Sampling Technique

In regarding to selection of respondents, the researcher used both probability and non-probability sampling Saunders et.al, (2007). According to Walliman (2005), Saunders et al. (2007) purposive sampling is a useful sampling method which allows a researcher to get information from a sample of the population that one thinks knows most about the subject matter. The researcher used purposive or judgmental sampling method consists of the staff members of procurement directorate and contract management directorate of PPPDS. The researcher used simple random sampling technique to select respondents from Public organizations found in Dire Dawa.

4.1.5. Sample Size

Determining sample size is very complex as it depends on other factors such as margins for errors, degree of certainty and statistical technique Corbetta, (2003). A general rule, one can say that the sample must be of an optimum size i.e., it should neither be excessively large nor too small Kothari, (2004). The target population number in PPPDS consists of (2) procurement and contract management directorate, (19) Procurement Officers and (9) contract administration staffs. (Kothari, 2004) it needs to be emphasized that when the universe is a small one, it is no use resorting to a sample survey. When all items are covered, no element of chance is left and highest accuracy is obtained. The remaining target populations of this study the staffs who are working on purchasing or procurement department from other Public organizations. Patrick, B. (2003) the researcher will take sampling technique by determining the sample proportion success and not success based on the experience from previous survey research response rate. Patrick, B. (2003) the return or success rate 50% is „adequate“; 60% response rate is „good“ and 70% rate or higher is „very good“. The researcher used for this study was 75% response rate and remaining 25% non-response rate, and sample size was determine at 95% confidence level. Based on the above condition, to determine the sample size of PPPDS and purchasing/procurement department of selected Public organizations are located only in Dire Dawa the researcher used the following formula Kothari, (2004): Sample size is calculated based on below formula (Kothari, 2004);

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2 (N - 1) + z^2 \cdot p \cdot q}$$

Where, p = proportion of success = 75% q = proportion of fail = 25% n = sample size, z = confidence level = 1.96 e = standard error = 5% N= total population = 82

$$n = \frac{1.96^2 (0.75)(0.25)*82}{(0.05)^2 (82-1) + 1.96^2 * (0.75)(0.25)}$$

n = 64 respondents (30 respondents are from PPPDS and the remaining 34 are from public organizations including Bureaus which are benefited from PPPDS procuring goods and service)

3.3.6 Data Collection Techniques and Instrument

There are two kinds of data for the research to be undertaken, primary and secondary data.

Accordingly, the source of the primary data is questionnaires, which is collected from the selected respondents. The questionnaire constituted two parts; the first part aims at getting the personal information of respondents and it included questions regarding gender, age, occupation and educational status. The second and main section of the questionnaire is designed to collect data about the overall information related to factors affecting procurement performance of the organization and other supporting questions. A closed- ended questionnaire and Likert scale will be used to measure the responses from the respondents. Secondary data includes literature (journals, magazines, other past studies, books and other relevant documents) on major research about procurement performance in Ethiopia and abroad.

3.3.7 Method of Data analysis and Presentation

Descriptive and inferential statistics will be used for data analysis. Statistical Package for Social Sciences (SPSS Version 20) will be utilized as the main descriptive statistical tool to analyze the data and determine the extent of relationships between the independent and dependent variables. Inferential statistics (correlations and multiple regression analysis) will be used to give a measure of the relationships between two or more variables and establish if there is any relationship or there existed a cause-effect relationship between the variables. Analyzed Data is presented using graphs (frequency tables, means and standard deviation) and figures.

Regression Analysis

The study will be conducted a multiple regression analysis to determine the relationship between

independent variables and the dependent variable.

The regression model is as follows:

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

Where:

Y is the dependent variable (Procurement performance),

β_0 is the regression coefficient/constant/Y-intercept,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are the slopes of the regression equation,

X1 is the information technology

X2 is the employee competence,

X3 is the procurement planning

X4 is the procurement process and,

α is an error term at 95% confidence level

4. Results and Discussions

4.1 Procurement Performance Evaluation

The researcher was evaluated PPPDS's procurement performance by five rights of Purchasing

Table 4. 1 PPPDS's Procurement performance Descriptive Statistics

Statements	Mean	Std.dev
With Right Quality	1.89	.789
At Right Time	1.77	.810
At Right Price	2.32	.678
From the Right Source	2.24	.674
Right Quantity	2.46	.550

Source: Survey Result (2019)

As indicated in the above descriptive statistics table, PPPDS procurement process team is working at the right quality with a mean value of 1.89, at the right time with mean value of 1.77, at the right price with a mean value of 2.32, from the right source with a mean value of 2.24 and at the right quantity with a mean value of 2.46. Therefore, from the result above, one can conclude that the procurement performance is very poor because, with right quality, in timely delivery, at the right price and quantity of materials purchased which is below average point. It is favorable that the goods and services are appropriate and that they are procured at the best possible cost to meet the needs of the purchaser in terms of quality and quantity, time, and with specified amount. Procurement performance has been described as the degree of achievement of certain effort or undertaking. It relates to the prescribed goals or objectives which form the project parameters. It is all about meeting or exceeding stake holders' needs and expectations from a project. It invariably involves placing consideration on following major procurement elements i.e. time, cost, quality, quantity and source Aldhfayan, (2008)

4.2 Tests and Statistical Analysis

In this study the researcher used inferential analysis is concerned with the various tests of significance for normality, autocorrelation and multico linearity in order to determine the validity of data. The data was sorted to group questions according to applicable constructs under test. Finally correlation and standard multiple regression analysis were performed. Tests and analysis of the data are presented below:

4.2.1 Normality Test

Frequency distributions come in many different shapes and sizes. It is quite important, therefore, to have some general descriptions for common types of distributions. In an ideal world our data would be distributed symmetrically around the center of all scores. As such, if we drew a vertical line through the center of the distribution then it should look the same on both sides. This is known as a normal distribution and is characterized by the bell-shaped curve. This shape basically implies that the majority of scores lie around the center of the distribution (so the largest bars on the histogram are all around the central value Field, (2006).

In a normal distribution, the values of skewness are 0. If a distribution has values of skew above or below 0 then this indicates a deviation from normal (Field, 2009). As we have seen from the below table, the skewness approaches or around to Zero and normal distribution figure 4.1.also show the data is almost normal. All variables were found to be normal.

Table 4.2 Tests of normality Procurement performance

	Procurement Planning	Staff Competency	Procurement Procedures	Utilization of ICT	Procurement Performance
Skewness	.538	.443	.546	.640	.194
Std. Error of Skewness	.245	.245	.245	.245	.245

Source: Survey Result (2019)

Skewed distributions are not symmetrical and instead the most frequent scores (the tall bars on the graph) are clustered at one end of the scale. A skewed distribution can be either positively skewed (the frequent scores are clustered at the lower end and the tail points towards the higher or more positive scores) or negatively skewed (the frequent scores are clustered at the higher end of and the tail points towards the lower more negative scores) (Field, 2005).

4.2.2 Correlation Relation

The correlation of the variable is measured by Pearson correlation coefficient. The result of the Pearson correlation is presented in the following table and interpreted by the guide line suggested by Field (2006); he mentioned that the Pearson correlation coefficient shows the relationship and direction between the predictor and outcome variable. Accordingly, if the relationship is measured in the range of 0.1 to 0.29 it is a weak relationship, 0.30 to 0.49 is moderate, above 0.50 shows strong relationship; while the positive and negative sign tell us the direction of their relationship.

Table 4.3 Pearson Correlation Information

		Procurement planning	Staff Competency	Procurement procedures	Utilization of ICT	Procurement performance
Procurement planning	Pearson Correlation	1	.121	.484**	.327**	.681*
	Sig. (2-tailed) N	58	.239 58	.000 58	.001 58	.000 58
Staff Competency	Pearson Correlation		1	.303**	.331**	.578**
	Sig. (2-tailed) N		58	.003 58	.001 58	.000 58
Procurement procedures	Pearson Correlation			1	.346**	.703**
	Sig. (2-tailed) N			58	.001 58	.000 58
Utilization of ICT	Pearson Correlation				1	.631**
	Sig. (2-tailed) N				58	.000 58
Procurement performance	Pearson Correlation					1
	Sig. (2-tailed) N					58

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

The above correlation table shows that the correlation relationship between predictor variables (i.e. Procurement planning, Staff Competency, Procurement procedure, Utilization of ICT) and dependent variables (Procurement Performance). Accordingly, procurement performance has strong and positive correlation with all procurement factors at Pearson correlation (r) value of 0.681, 0.578, 0.703 and 0.631 respectively as Procurement planning, Staff Competency, Procurement procedure, Utilization of ICT with significant value of P<0.01.

4.3. Regression Analysis

Regression standardized coefficients can take on any value between 0 and 1, and it measures the proportion of the variation in a dependent variable that can be explained statistically by the independent variable(s) (Saunders et al., 2012). R square tells us how much of the variance in dependent variable is accounted for by the regression model from our sample, the adjusted value tells us how much variance in dependent variable would be accounted for if the model had been derived from the population from which the sample was taken (Field, 2006). Regression coefficients (R) and R Square of the research are discussed below:

Table 4.4 Model Summary Table

Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin- Watson
1	.927a	.859	.853	.25297	1.924

- a. Predictors (in Dependent Variable): (Constant), Procurement planning, Staff Competency, Procurement procedure, Utilization of ICT
- b. Dependent Variable: Procurement performance Indicators

In the above table 4.4, multiple correlation coefficient R of 0.927 indicates that the correlation among the independent and dependent variables is a strong positive relationship; as a result working on those selected factors have positive impact on procurement performance of the PPPDS. The coefficient of determination, R square is interpreted as 85.9 % of the variation in the dependent variable procurement performance is explained by the independent variables (i.e. Procurement planning, Staff Competency, Procurement procedure, Utilization of ICT) and the remaining percent (14.1%) is explained by other dimensions.

4.5 Model Generalization

Generalization is a critical additional step and if we find that our model is not generalizable, and then we must restrict any conclusions based on the model to the sample used Field, (2006). The adjusted R square gives some idea of how well the model generalizes and ideally it would like its value to be the same or close to, the value of R square. In addition, the adjusted value tells us how much variance in dependent variable would be accounted for if the model had been derived from the population from which the sample was taken.

The model generalization value is calculated by the difference between R square and adjusted R square Field, (2006). As a result model generalization summary of procurement performance is calculated as the difference between adjusted R square and R square. Referring table 4.4 above, value of adjusted R square and R square is, respectively. Hence the difference between R square and adjusted R square is give the shrinkage value $0.853-0.859 = 0.006$, about 0.6%. This shrinkage means that if the model was derived from the population rather than a sample, it would account for approximately 0.6 % less variance in the outcome. Therefore, we can conclude that if this model is applied on the total population, only 0.6 % of variance occurs on the result.

4.5.1 Multiple Regression Analysis

Regression analysis is a statistical method to deal with the formulation of mathematical model depicting relationship amongst variables which can be used for the purpose of prediction of the value of dependent variable, given the value of the independent variable(s) (Kothari, 2004). Multiple regression analysis is an analysis of association in which the effects of two or more independent variables on a single, interval-scaled dependent variable are investigated simultaneously (William and Barry, 2010). There are three major types of multiple regression techniques namely standard multiple regression, hierarchical regression, and statistical (stepwise) regression (Ho, 2006). This study was conducted using standard multiple regression method that all the study’s independent variables are entered into the regression equation at once. According to William and Barry (2010), no cutoff values for the model R square value to accept or reject the regression model; therefore, the regression analysis results are interpreted and regression models are developed to all dependent variables. In this study, multiple regression analysis was conducted to test the effect of independent variables or procurement factors (i.e. Procurement planning, Staff Competency, Procurement procedure, Utilization of ICT) on the dependent variables or supply chain performance. The reason for using this multiple regression analysis was to examine the direct effect of factors that affect procurement performance in PPPDS.

4.5.2 Regression Coefficients or Model

Standardized regression coefficient (Beta) is the estimated coefficient indicating the strength of relationship between an independent variable and dependent variable expressed on a standardized scale where higher absolute values indicate stronger relationships (range is from -1 to 1) William and Barry, (2010).

Table 4.5 Regression Standardized Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.361	.113		-3.205	.002
PP	.302	.037	.357	8.102	.000
SC	.269	.036	.322	7.563	.000
PPR	.284	.041	.329	6.983	.000
ICT	.261	.038	.316	6.921	.000

a. Dependent Variable: Procurement Performance Based on multiple linear regression analysis, the above table 4.16, Beta weight reveals that the impacts of each Procurement planning, Staff Competency, Procurement procedure and Utilization of ICT on procurement performance are 0.357, 0.322, 0.329 and 0.316 respectively. This informs the predicted change or any improvement in the dependent variable for every unit increase in the predictor, while other variables being held constant. By examining the standardized regression coefficient (β) for each of the predictor variables, the result found that Procurement planning (β = 0.357, p < 0.05), Staff Competency β = 0.322, p <0.05), Procurement procedure (β = 0.329, p < 0.05) and Utilization of ICT (β = 0.316, p < 0.05) show significant positive relationship with procurement performance. The multiple regression equation (Ho, 2006):

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n$$

Where: Y = dependent variable

β0 = constant

β_n = Unstandardized regression coefficient

X = Value of the predicted coefficient

Y (PRPR) = $\beta_0 + (\beta_1) PP + (\beta_2) SC + (\beta_3) PPR + (\beta_4) ICT$

Where: $PP=0.357$, $SC=0.322$, $PPR=0.329$ and $ICT=0.316$

PRPR = Procurement Performance

PP = Procurement Planning

SC=Staff Competency

PPR = Procurement Procedure

ICT = Utilization of ICT

Y (PRPR) = $-0.361 + 0.357 PP + 0.322SC + 0.329 PPR + 0.316 ICT$

By examining the unstandardized regression coefficient (β) for each of the predictor variables, the result found that procurement planning ($\beta = 0.357$, $p < 0.05$), staff qualification ($\beta = 0.322$, $p < 0.05$), procurement procedures ($\beta = 0.329$, $p < 0.05$) and utilization of ICT ($\beta = 0.316$, $p < 0.05$) show significant positive relationship with procurement performance. So, there is a positive relationship between the predictors (Procurement planning, staff competency, procurement procedures and utilization of ICT) and outcome (procurement performance) since the value of beta coefficient is positive.

5 Conclusion

This study has provided empirical justification for a framework that identifies four constructs of procurement Performance and describes the relationship among these constructs and procurement performance within the context of Dire Dawa in PPPDS. It concludes that there is a relationship between the procurement factors (independent variables) and procurement performance (dependent variable); the correlation relation shows that they have a strong and positive correlation with all procurement factors.

According to the five R's of purchasing (at the right time, from the right source, at the right price, at the right quality) procurement unit of PPPDS is working under poor performance and providing inefficient services for end users and average terms of purchasing right quantity.

The independent variables studied significantly and positively affect the procurement performance of PPPDS. In general, the study concludes that procurement planning, staff qualification, procurement procedures and utilization of ICT positively affect procurement performance at PPPDS. The most important factor was found to be procurement planning followed by procurement procedures as pointed out by most of the respondents

6 Recommendations

Based on finding of the study, conclusion drawn in line with the study objectives, the following points are suggested by the researcher in order to improve procurement performance of Public Procurement and Property Disposal Service.

- ✓ The PPPDS has to work on the four purchasing factors in order to improve its procurement performance in particular and organizational performance in general in order to improve the five rights of purchasing. The organization should continue improving reduction in quality complaints, by preparing clear specification, evaluating bidders according to the bid document set criteria, putting in place competence inspection team, installing effective inventory management and consistent product quality and conducting market assessment to achieve right price. In order to address the above factors identified as far as quality management was concern, the company should use effective procurement automation that will make it achieve on time delivery.
- ✓ The researcher also recommends that procurement plans shall prepare on time with complete information by end users. In addition, Public organizations shall also minimized urgent/unplanned requisitions. Public organizations should strengthen and ensure successful implementation of their organizational plan and to achieve their organizational goals and objectives. Procurement plan must be fully integrated with the strategic plan and budget of the public administration. Procurement plan is specifically designed to assure that funds are available for the procurement, that the proper method of procurement is undertaken, and that the type of contract chosen will be suitable for the particular procurement of goods, works, or services.
- ✓ The researcher recommends that within administrative procedures evaluate the entire procurement procedures in order to identify service delivery point of breakdown with a view to re-engineer the procurement process. The contract management procedures should be improved to increase the performance level of procurement process by reducing delays in finance process and delivery of goods/services by improving contract management procedures. The procurement process should be administered by qualified and experienced procurement professionals.
- ✓ The company should enhance its employee's competence as a way of achieving service delivery as a means of improving procurement performance. This can be achieved by creating awareness through training on the following aspects of procurement; state of the order up to date and also those employees had superior knowledge in entire procurement process. For the success of the contracts under execution, the management of PPPDS should ensure that proper mechanisms for procurement performance such as adequate monitoring and evaluation of procurement performance are put in place with the input of procurement personnel and the user department with progress reports that helps to take necessary action.

- ✓ The study recommends that the organization should enhance the utilization of IT in the entire business process which is inter-linked to procurement. Enterprise Resource Planning System that would integrate e-procurement into the entire business operations of the organization which would create benefits to all the clients very useful to communicate easily with the user department, procurement unit, and suppliers, require procurement information output for decision making, this in turn will improve transaction time and accuracy.

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