

**INFLUENCE OF PROCUREMENT LIFE CYCLE ON HOUSING
CONSTRUCTION PROJECT PERFORMANCE: A CASE OF NAKURU COUNTY**

BY

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**A Research Project Report Presented to the School of Arts in Partial Fulfilment of the
Requirements for the Degree of Master of Project Management of the University Of
Nairobi**

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DECLARATION

This research project report is my original work and has not been submitted for the award of degree or diploma in any other university.

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DEDICATION

This Research Project Report is dedicated to my beloved family and friends who have supported me and may the Almighty bless them. I register my sincere gratitude to my parents for their financial and moral support throughout my studies.

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ABBREVIATIONS AND ACRONYMS

CSC	Client Selection Criteria
GNP	Gross Domestic Product
HCP	Housing Construction Projects
N CA	Nakuru County Assembly
PCR	Procurement Control Regulations
PPOA	Public Procurement Oversight Authority
QASP	Quality Assurance Standards in Procurement

ABSTRACT

Procurement is a prime activity that has influence on the operations of an organization as it is an activity that covers all the sectors in the organization. The purpose of the study was to obtain the best procurement strategy that could limit fraud and corruption in an effort to improve the performance of organizations in Nakuru County. The objectives that guided this study were: To examine the extent user specification influence project performance, to determine the extent tender process influence project performance, to assess the extent supplier evaluation influence project performance and to identify the influence of contract execution on project performance in Nakuru County. The study used the Resource Based View (RBV) Theory developed as a complement to the institutional organizations view which focuses on the structure conduct-performance paradigm; the institutional organization view put the determinants of institutional performance outside the institution, in its structure. The study adopted descriptive survey. Descriptive survey research design based on questionnaire and interviews was used because the study objectives were descriptive in nature and required taking care of multiple realities likely to be found in the field. The instruments of data collection were the questionnaires and interview schedules. The literature review was based on the themes of the study. The researcher's supervisors helped to confirm the validity and the study employed both purposive and systematic random sampling to obtain respondents for the study. The study employed both purposive and systematic random sampling to obtain respondents for the study. Purposive sampling ensured that all the managers, all the county assembly committee members and all Ministries of works officials provided information concerning the subject of study. Systematic random sampling was used to select respondents. The sample size for the study was 222 County assembly procurement committee and officers from the ministry departments in Nakuru County. Cronbach's alpha was used to establish reliability. Data from the responses was organized; coded and analyzed. The analysis was done using descriptive statistics, tables, frequencies simple mean scores and percentages. It was concluded that Quality assurance influences completion of construction projects. Non completion of projects affected the viability of the project such as budget could be exceeded, project will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval thus affecting the completion of the projects, be sensitive to the application of new technologies, though facility will be operating within the design specifications. It was recommended that the Government of Kenya put in place procurement policies that ensure that clients get satisfied with the way projects are implemented and that projects take the scheduled time to get completed since it was noted that there were many variations to the project contract leading to high cost of the project. It was also recommended that the Government should ensure that e-procurement is embraced in its ministries and public sector to ensure open and fair procurement process.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Procurement is a major activity that influences operations of an organization as it is an activity that covers all the sectors in the organization. In Europe, each year about 250,000 public authorities in the EU uses appropriately 14% of GDP on obtaining services, works and supplies. According to Lysons and Farrington (2010) asserts that federal authorities such as energy, waste management, transport, social protection and provision of health or education are the key buyers. Therefore, public procurement is defined as the process by which public authorities such as local authorities or government departments buy work, products, or services from companies (Gadde, 2009). To establish a standard playing field for all companies across Europe, EU laws set out the minimum harmonized public procurement rules. These regulations give the structure public authorities and specific public utility operators purchase products, services, and works.

In Africa, several public sectors organizations perceive useful procurement activities as costly. On the contrary, the sustainable remedy can regularly cost less over the entire life of the purchasing. Lysons and Farrington (2010) claimed that some vital advantages include worth for the money, protection, and enhancement of the environment, more efficient use of resources, greater social inclusion, ethical trade, support for innovation, better risk management, lower whole-life cost enhanced supplier connections, a variety and flexible supply chain and a competitive edge. Meredith and Mantel (2012), argue that adequate procurement policies and practices are vital for proper public financial management and effective budget implementation. In African countries, public procurement assumes for a significant part of fiscal expenditures, making sound procurement methods element not only for an active public financial management but also for comprehensive development.

The management of an organization ought to understand the art of procuring goods and services. The procurement cycle adheres to precise steps for ascertaining the requirement of a company up to the final stage of awarding the contract. Responsible management of funds is critical when handling the procurement process. Adhering to a tested step-by-step model helps the management to achieve its goals. A procurement plan is necessary for obtaining goods and services from suppliers. Procurement life cycle plan helps a firm to define its procurement needs, identify all the required items, and create a

sound budget for the goods and services. This article analyses the major steps involved in the procurement lifecycle plan. The three broad steps analyzed include preparation, management, and close of contract (Sollish & Semanik, 2013).

Specification definitions are simply a definite description of what is needed or wanted for use by the user of a product or service. The overall purpose of a specification is to provide a basis for obtaining a good or service that will satisfy a particular need at an economical cost and to invite maximum reasonable competition (Lloyd, R. E. (2004). Specification sets limits and thereby potentially eliminates items that are outside the boundaries drawn. Specifications should be updated on the basis of market realities, should be part of the bid documents, should come before the preparation of bidding documents and should be prepared by those who know what is required or by a procurement agent or a consultant in case of complex specifications (PPOA, 2014).

In projects, the specification of requirements will lead to the identification of a deliverable or set of deliverables. A deliverable is a tangible output that must be provided under the contract (Ryan P.D, 2005). In project contracts, deliverables can be tied to milestones. A milestone is a measurement of progress toward an outcome. For a typical review project, milestones might be the completion of review and delivery of a draft report, then revision of draft report and delivery of the final report.

The first step in preparation is planning the procurement contract. Procurement is planning and implementation of proper procurement practices result in better value for money, delivery of quality goods and services, and limited risks to the company. Procurement planning entails consulting the major stakeholders to identify requirement, examine the working of supply market, analyze the risks involved and eventually, adopt the best procurement approach to meet the firm's business needs. Planning the procurement contract is vital because it enables all stakeholders to determine the most valuable goods and services to procure. Importantly, it ensures only best procurement strategy is adopted. Defining the supplier requirements come in second. The vendor requirement specifies the services and goods a firm wants to procure, and the type of supplier needed. The cost, FAR requirements, and item restriction are contained in the supplier requirement. The procurement officer must comprehend clearly what the firm wants to procure. The legal framework covering the goods and services to be purchased should also be defined in the supplier requirement. The conditions should be set in a manner that encourages competition and best value (Sollish & Semanik, 2013).

This involves selecting the appropriate source. The source selection strategy should be contained in the source selection plan. Procurement officers are responsible for source selection. The notion of best value is the foundation of the source selection. In various acquisition processes, the importance of price or cost may vary. However, price and best value play a significant role in the procurement process. All evaluation factors that affect the acquisition of a contract should be spelled out clearly in the solicitation. The second step under management is to negotiate, select, and award the purchase contract. The process involves stating the selection committee that will review all tenders; the contracts are also counterchecked against the FAR requirements. The agreement is not necessarily given to the lowest bidder but rather to the supplier with the maximum points as stated in the request for proposal. Any vendor whose interests may conflict with those of a procuring company may not be considered. This is done to avoid any conflict of interest (Ludlow, 2015).

Where the nature of the procurement is such that the organization is able to define what the outcomes are, but not necessarily, how they will be delivered, restricted bidding may be used as the bid invitation method. This is where performance is the driver and can be clearly articulated.

Suppliers can offer different innovative solutions, so long as the performance meets the organization needs (Brown et al, 2001). In instances where the suppliers must offer a solution that exactly matches the organizations' specification, the organization may use restricted bidding method like Expression of Interest through which suppliers are shortlisted followed by a tendering process. The decision as to which is most appropriate will vary depending upon the nature, scope, value, level of risk and complexity of the project (Baily, P. et al, 2005). The two main bid invitation methods used in Kenya are open bidding and restricted bidding. The three primary elements used to manage the performance of suppliers are; gathering facts on the supplier about compliance with schedule, pricing, quality standards being observed and other requirements specified in the contract. The second alternative is obtaining feedback and experience of customers. For instance, engineers dealing with a supplier in the field can be interviewed to ascertain their experience with a particular vendor. Also, the performance of the supplier can be evaluated using experience with the procuring firm. It is important to analyze their performance so as to solve unnecessary obstacles (Gross, 2012).

An organization can verify receipt by creating a Good Receipt to countercheck the goods received from a vendor. The process allows a company to compare goods received against those written in the receipt, the vendor who delivered the goods, who, how, and

when the goods were received and who received them. There must also be separate departments to receive the products and verify the receipts. A contract is finalized when final delivery of goods and services has occurred. Nonetheless, a deal is only ready for closeout if the supplier complies terms of the contract. The closeout occurs after completing all the administrative actions, settling all disputes, and making the final pay. Closeout process requires corporation between the procurement, finance, supplier, and auditing department. Timely closeout is important because it saves time and money. The excess funds can be channelled elsewhere for use (Zaman, 2011).

Procurement process enhances efficiencies and cost saving. Collaborative procurement process, improving relationships with suppliers, and improving purchasing process is essential in improving the performance of a firm. Well-coordinated procurement process ensures a firm receives quality and affordable goods within the stipulated time, at the right place, and at an affordable price. Procurement process helps to reduce cost and in return improve the profitability of a firm. Large-scale buying can also enhance the economies of scale. Importantly, it reduces wastes by recommending for only goods and services that are required by the company. In conclusion, it is recommended that a further study be carried out to obtain the best procurement strategy that can limit fraud and corruption in an organization.

In Kenya, despite government efforts to improve project performances, success has been hampered by endemic delays in project completion. The Kenyan economy has been on a growth path since the year 2002 when a new government came into place. The Economic Survey of 2013 paints a rosy picture for the economy. The economy recorded a GDP growth rate of 4.6 percent in 2012 and 4.4 percent in 2011. On average, all sectors of the economy have recorded growth but this has been particularly visible in most county governments. County governments have been constructing roads, learning institutions, hospitals among many other facilities. The construction sector has shown average GDP growth rate of over 10 percent in this period. The national government has been allocating funds to county governments each financial year. However, reports from the auditor general have indicated massive loss of funds and in other cases citing non-compliance to procurement process. If projects achieved their schedules during this time, then this growth would have been higher because impact on the economy from the completed projects would have come earlier with its attendant multiplier effect. The delays in project performance therefore have tended to delay economic growth. The growth would have been much higher if most of the projects implemented were completed in the scheduled time and therefore

started contributing to economic activities that early. With enhanced movement of goods and services, value addition becomes possible as their transfer from areas of low demand to those of high demand is easy.

1.2 Statement of the Problem

Performance in all organizations is an issue of ultimate concern in all countries of the world. The Procurement lifecycle influences the way projects are carried out especially in both national and county governments. Some cycle take longer period while others take a very short time. The emphasis residues on organizations; specifically, on operators to maintain reviewing the procedures in order to identify the encounters and put forward proposals for refining the procurement process to enhance project delivery. Besides, investigations have been conducted, results show the cause is lack of a procurement management which has led to low project performance. These investigations validate the need for improved procurement management in complicated projects. Due to a poor contractor, performance there had been a lot of effort put in place to make sure the County operates in a suitable manner, which will make operators and contractors meet their contractual obligations through the application of effective procurement lifecycle management.

Conversely, no procurement lifecycle management can guarantee a problem-free in project execution. Bharwaj (2011) assert that the eminence of the people, management system of the company, and contractor that are the paramount guarantor of accomplishment. Although, some of the contractors; have not been performing to meet to the agreed level. Similarly, some members of the procurement team especially the end users, have not been taking possession of the process as a result there is no control of cost, late invoice disbursements for service delivered/completed, which sources cost overrun and complains to contractors which have to affect the relationship and contractor's performance. This study therefore seeks to investigate the influence of procurement life cycle on project performance, in Nakuru County

1.3 Purpose of the study

The purpose of the study was to obtain the best procurement strategy that can limit fraud and corruption in an effort to improve the performance of organizations in Nakuru County.

1.4. Specific Objectives

The study was guided by the following objectives;

1. To examine the extent to which user specification influence housing construction project performance in Nakuru County.
2. To determine the extent in which tender process influence housing construction project performance in Nakuru County.
3. To assess the extent to which supplier evaluation influence housing construction project performance in Nakuru County.
4. To identify the influence of contract execution on housing construction project performance in Nakuru County.

1.5 Research Questions

The study sought answer to the following questions:

1. To what extent does user specification influence housing construction project performance in Nakuru County?
2. Are there any statistical differences between tender processes and conclusion of housing construction projects performance in Nakuru County?.
3. Are there any statistical differences between supplier evaluation and housing construction project performance in Nakuru County?.
4. Are there any statistical differences between contract executions and housing construction project performance in Nakuru County?

1.6 Significance of the Study

The study sought to establish the factors that influence management on project performances in Nakuru County. This was by providing extensive knowledge that benefits procurement managers in their quest to determine ways of preventing penalties that arise from non-compliance, payment errors incurring fees and missed opportunities from rebates and special terms.

The government and other stakeholders in most public institutions may also benefit from the findings of this research owing to the fact that the problem of reducing time and costs associated with contract administration poses serious challenges. These challenges need policy guidelines to streamline management processes in contract administration.

The study findings are expected to be valuable in guiding students and other readers/researchers for advance and future referencing as a starting point to conduct parallel

researches on the topic and add to their existing knowledge. They could lengthen their efforts in the areas that have not been covered by this study.

1.7 Limitation of the Study

The study, just like other randomized experiments, where variables are confined to other variables deny use of its conclusion and recommendation for generalization. This is because the study was involved in a specific context. Thus, it is difficult to know whether the findings could be conceptualized or generalized.

The study analyzed primary data, it experienced time limit. Berg (2014) suggests that shortage of time lowers the quality and quantity of data collected. The quality is lowered when the respondent is limited in a set range of answers as a way of saving minimum time and ensuring all the selected participants get time to participate in the survey process.

Since procurement takes various forms some of which are not clear, the respondents could fear to admit that some of the forms really exist. However, the researcher introduced himself and socialized with the respondents to create rapport. The respondents too, were assured about their confidentiality of their identity and were therefore not asked to indicate their names.

1.8. Delimitation of the Study

The study targeted only procurement managers, county assembly procurement team and Ministry clerks. For more conclusive results both public and private offices should have been studied. The content of this study was limited to the use of procurement process in County offices. All areas should have been covered; this was not possible because of the available resources to conduct the study as well as other logistical constraints.

The respondents were procurement officers, Clerks and office messengers. More officers from other departments should have been included in the study. The scope of the study was delimited geographically to Nakuru County offices in Nakuru County.

1.9. Assumptions of the Study

In the study, the following assumptions were made:

User specification in procurement life cycle if applied the way envisaged, would bring about significant improvement in performance of projects in Nakuru County. The tendering process in procurement life cycle would improve the performance of projects in Nakuru County. The supplier evaluation in procurement life cycle would improve performance of projects in Nakuru County. The contract evaluation in procurement life cycle would influence performance of projects in Nakuru County?

1.10. Definition of significant terms

Completion of projects - Date set for end of projects where customer satisfaction is evident.

Control regulations – The statutes and legal frameworks which binds the State, Individuals, service providers and all participants in the procurement process to achieve accountability, transparency and ethics

Procurement process - Procedures/tasks needed in buying goods, works or services; buying the basic infrastructure and services. This involves acquisition of operation and management services for a basic service like construction of buildings and infrastructure. Project completed within the predetermined variables- time, cost, quality, client satisfaction; productivity and safety.

1.11 Organization of the study

This chapter covered the background of the study, statement of the problem, significance of the study, limitations and delimitations, operational definition of terms and organization of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the previous studies done in the area. Review of empirical Literature, theoretical review, summary and gaps as well as conceptual framework. The section gives light to the study from previous researchers and the main studies on role of supplier development on procurement performance.

2.2. Empirical review

The project manager and project team have one shared goal: to carry out the work of the project for meeting the project's objectives. Every project has a beginning, a middle period during which activities move the project toward completion, and an ending (either successful or unsuccessful). A standard project typically has the following four major phases (each with its own agenda of tasks and issues): initiation, planning, implementation, and closure. Taken together, these phases represent the path a project takes from the beginning to its end and are generally referred to as the project "life cycle."

During the first of these phases, the initiation phase, the project objective, or need is identified; this can be a business problem or opportunity. An appropriate response to the need is documented in a business case with recommended solution options. A feasibility study is conducted to investigate whether each option addresses the project objective and a final recommended solution is determined. Issues of feasibility ("can we do the project?") and justification ("should we do the project?") are addressed. Once the recommended solution is approved, a project is initiated to deliver the approved solution and a project manager is appointed. The major deliverables and the participating work groups are identified, and the project team begins to take shape. Approval is then sought by the project manager to move onto the detailed planning phase.

The next phase, the planning phase, is where the project solution is further developed in as much details as possible and the steps necessary to meet the project's objective are planned. In this step, the team identifies all of the work to be done. The project's tasks and resource requirements are identified, along with the strategy for producing them. This is also referred to as "scope management." A project plan is created outlining the activities, tasks, dependencies, and timeframes. The project manager coordinates the preparation of a project budget by providing cost estimates for the labour,

equipment, and materials costs. The budget is used to monitor and control cost expenditures during project implementation.

Once the project team has identified the work, prepared the schedule, and estimated the costs, the three fundamental components of the planning process are complete. This is an excellent time to identify and try to deal with anything that might pose a threat to the successful completion of the project. This is called risk management. In risk management, “high-threat” potential problems are identified along with the action that is to be taken on each high-threat potential problem, either to reduce the probability that the problem will occur or to reduce the impact on the project if it does occur. This is also a good time to identify all project stakeholders and establish a communication plan describing the information needed and the delivery method to be used to keep the stakeholders informed. Finally, you will want to document a quality plan, providing quality targets, assurance, and control measures, along with an acceptance plan, listing the criteria to be met to gain customer acceptance. At this point, the project would have been planned in detail and is ready to be executed.

During the third phase, the implementation phase, the project plan is put into motion and the work of the project is performed. It is important to maintain control and communicate as needed during implementation. Progress is continuously monitored and appropriate adjustments are made and recorded as variances from the original plan. In any project, a project manager spends most of the time in this step. During project implementation, people are carrying out the tasks, and progress information is being reported through regular team meetings. The project manager uses this information to maintain control over the direction of the project by comparing the progress reports with the project plan to measure the performance of the project activities and take corrective action as needed. The first course of action should always be to bring the project back on course (i.e., to return it to the original plan). If that cannot happen, the team should record variations from the original plan and record and publish modifications to the plan. Throughout this step, project sponsors and other key stakeholders should be kept informed of the project’s status according to the agreed-on frequency and format of communication. The plan should be updated and published on a regular basis.

Status reports should always emphasize the anticipated end point in terms of cost, schedule, and quality of deliverables. Each project deliverable produced should be reviewed for quality and measured against the acceptance criteria. Once all of the deliverables have been produced and the customer has accepted the final solution, the project is ready for

closure. During the final closure, or completion phase, the emphasis is on releasing the final deliverables to the customer, handing over project documentation to the business, terminating supplier contracts, releasing project resources, and communicating the closure of the project to all stakeholders. The last remaining step is to conduct lessons-learned studies to examine what went well and what did not. Through this type of analysis, the wisdom of experience is transferred back to the project organization, which will help future project teams.

2.3 User specification process and Project Performance

Different studies have confirmed the use of various types of procurement processes for project delivery in Nigeria. Studies of Ogunsanmi, Iyagba and Omirin (2003), Ojo, Adeyemi and Agbenle (2006), and Dada (2012) all confirm the use of Traditional, Design and Build, Project Management, Construction Management, Labour only, Direct Labour and other types such as Alliancing, Partnering and Joint Ventures procurements in the Nigerian construction industry. The use of these procurement methods can significantly affect the performance of most projects. In construction management literature, several studies have also indicated that procurement systems have significant effects on construction project performance. Noted in this direction are studies of Eriksson and Westerberg (2012), Eriksson and Vennstrom (2012), Rasid, Taib, Ahmed, Nasid, Ali and Zainordin (2006) Hashim (1999) and Miller Furneaux, Davis, Love and O'Donnell (2009).

Eriksson and Westerberg (2012) study postulates different procurement factors at the design, bid invitation, bid evaluation and sub-contractor selections stages that can have various influences on project performance. Similarly, Eriksson and Vennstrom (2012) also investigates the effects of cooperative procurement procedures of joint specification, limited bid invitation, soft evaluation parameters, collaborative tools and others on project performance in the Swedish construction industry. In the same vein, study of Rasid et al. (2006) indicates that different procurement methods offer different allocation of responsibilities, activities sequencing, process, procedure, and organizational approach that would affect project performance. It appears that these different studies have exploited the effects of different procurement factors peculiar to their construction industry on project performance. Moreover, different procurement methods have been used in the Nigerian construction industry to procure several construction projects and these procurement methods can influence project performance.

Tendering is the administrative procedure of sending out drawings and bill of quantities or specification to contractors with the intention to submit a price for the construction of the project. Besides the price for this project, other consideration such as contractor's competence, financial capability, technical competence and other factors are used in selecting a contractor for executing a construction project. Different tendering methods have been used in construction projects for inviting tenders. According to Ramus (1981), Mathonsi and Thawala (2012) and Ganderton (2012) there are various methods such as open selective, negotiation, competitive, open selective, design and build tendering approaches that have been used in construction projects. In addition, serial and two-stage tendering methods have been significantly used also in construction projects. According to Mathonsi and Thawala (2012) the use of open tendering method involves placing an advertisement in a widely read newspaper to invite prospective contractors to tender and it is strongly criticized for its increased cost of processing.

2.4 Tender Process and Project Performance

One of the initial design decisions is whether to conduct a static (sealed-bid) or dynamic (descending-bid) auction. A frequent motivation for the use of dynamic auctions is reducing common-value uncertainty, thereby enabling bidders to bid more aggressively with less fear of the "winner's curse." However, in the context of buying many goods, the price discovery of a dynamic auction plays another, often more important, role. By seeing tentative price information, bidders are better able to make decisions about the quantity of each good to sell. This is particularly useful because the goods being procured are related. Some may be substitutes; others may be complements in production. Bidding in the absence of price information makes the problem much more difficult for bidders.

Furthermore, practical constraints can make bidding in a sealed-bid auction exceedingly difficult unless the auctioneer allows the bidders to express these constraints in their sealed bids; whereas, in a dynamic auction, the bidder can see tentative prices and assignments, allowing the bidder to make decisions that are consistent with the bidder's constraints. The case for dynamic auctions is further strengthened when we recognize that it is costly for bidders to determine their preferences. A dynamic auction, by providing tentative price information, helps focus the bidder's decision problem. Rather than consider all possibilities from the outset, the bidder can instead focus on cases that are important given the tentative price and assignment information. Although this point is already valid in

auctions for a single good (Compte and Jehiel 2002), it becomes more critical in the context of many goods, where the bidder's decision problem is much more complicated.

Rather than simply decide whether to supply, the bidder must decide which goods to supply and what quantity of each. The number of possibilities grows exponentially with the number of goods. Determining costs and then bids for each of these possibilities is difficult at best; whereas, in the presence of transparent price information the decision problem becomes relatively more straightforward. Given the increased importance of price discovery when auctioning many divisible or indivisible goods, we focus on dynamic auctions. The question then becomes: How can the auction designer best promote effective price discovery? For divisible goods, simultaneous clock auctions are both effective and simple. In a simultaneous clock auction, there is a price "clock" for each divisible good indicating its tentative price per unit quantity.

Bidders express the quantities they wish to supply at the current prices. The price is decremented for goods with excess supply, and bidders again express the quantities they wish to supply at the new prices. This process repeats until supply is made equal to demand. The tentative prices and assignments then become final. For indivisible goods, the simultaneous descending auction may be preferred, especially if the number of items is large. The simultaneous descending auction is analogous to the simultaneous ascending auction used by the U.S. Federal Communications Commission and other countries for selling radio spectrum. The only difference between the simultaneous descending auction and a clock auction is that in the simultaneous descending auction, the bidders specify both a price and quantity for each item they wish to supply. In the clock format, the auctioneer names prices and the bidders only express quantities at the announced prices.

We begin with two stylized models that abstract away from many of the complicating practical details. In each, we assume that there is a continuum of bidders, so that market power considerations can be ignored. We also assume that the bidding occurs in continuous time, avoiding issues arising from discreteness. We show that the equilibrium outcome of the auction coincides with the competitive equilibrium of the model and attains full efficiency. In this sense, the simultaneous clock auction brings to life the "Walrasian auctioneer" often used to motivate the competitive equilibrium.

We then turn to practical considerations that need to be addressed in any real-world situation. Discrete rounds, rather than bidding in continuous time, imply that issues of bid decrements, ties, and rationing become significant. We argue that this complication is best handled by utilizing "intra-round bids," allowing bidders in each round to express their

supply curves along a line segment between the starting and ending price vector for the round. Allowing a rich expression of preferences within a round makes bid decrements, ties, and rationing less important. Since preferences for intermediate prices can be expressed, the efficiency loss associated with the discrete decrement is less, so the auctioneer can choose a larger bid decrement, resulting in a faster and less costly auction process.

Natural linkages among goods often exist in practice. For example, in the case of an auction of electricity capacity, the goods may differ by the duration of the contract (e.g., three months, one year, or multiple years). Such products are natural substitutes: a two-year contract is simply a sequence of two one-year contracts. Hence, the relative prices of such products are closely related. The auction can exploit this linkage by enhancing substitution possibilities across these products.

Market power is a final practical consideration. Although some auction settings approximate the ideal of perfect competition, most do not. The auction design needs to address limited competition. Three useful instruments are information policy, reserve pricing and efficient pricing. By controlling the information that bidders receive, the auctioneer can enhance price discovery while limiting the scope for collusion. Reserve pricing serves two roles, providing price discipline in the absence of competition and discouraging collusion by limiting the maximum gain from successful collusion. Finally, since uniform pricing inevitably leads to supply reduction (Ausubel and Cramton 2002), the resulting inefficiency can be avoided by instead using the efficient pricing rule of the Ausubel (2004) auction.

2.5 Supplier Evaluation and Project Performance

Different authors have postulated different procurement selection factors that can assist clients to choose the best procurement method. Studies of Masterman and Gameson (1994), Rowlinson (1999), Alhazini and McCaffer (2000), Shiyamni et al. (2006) as cited in Soyombo and Ogunsanmi (2011) have demonstrated that procurement selection factors of client characteristics, project requirements and external environment are in use. However, Shiyamni et al. (2006) reemphasized the use of the three factors together but expansively considers client requirements to include cost related factors, time related factors and quality related factors.

Governments of both developed and developing countries spend a lot on goods and services to deliver public service effectively and efficiently, as well as to achieve value for money

for taxpayers. To make efficient and effective use of the state's money, public procurement is needed. Public procurement is a practice that is used by public sector organizations to acquire goods, services and works from third parties meaning suppliers. "It includes money spent by the public sector to provide key services directly to citizens" (Sarfo, 2011).

2.6 Contract Execution on Project Performance

Selective tendering in the views of Ramus (1981) involves considering 5-8 competent contractors to be invited to tender for a project. Criteria used in drawing up these competent contractors can include standard of workmanship required, equipment base of the firm, previous business records and financial standing amongst other factors. Selection of contractor through this approach may overcome the deficiencies in open tendering but may lead to higher quotations. Negotiation approach is used when a firm or client has previous satisfaction association with a contractor and the client is prepared to give the contract to this contractor on bases of reasonable price for the project. Such an arrangement is also used if the project is of specialist nature. This approach is known to save time but may lead to higher prices for the quotation (Ramus, 1981; Ganderton, 2012). Competitive tendering approach is used where various contractors of all categories are welcomed to submit tenders. According to Chinyio (2011), competitive tendering must have three stages of (1) pre-qualification, (2) tender documentation and (3) bidding.

As indicated by Public Procurement Act (2007) competitive tendering in Nigeria is to encourage due process, accountability, and transparency but this involves high bidding cost, conflicts of interest, as it is not guaranteed that the lowest tender wins the project. Open-selective tendering approach is used as a hybrid of open and selective methods. The Traditional procurement method utilizes open, selective and negotiated tendering approaches to obtain its tenders (Mathonsi and Thawala, 2012). Design and build procurement method utilizes selective tendering method for obtaining tenders from Design-build contractors. According to Chinyio (2011), selective tendering method can be subdivided into single stage and two-stage tendering methods. Single stage tendering is an approach where one stage of tendering is used while a two-stage tendering method involves a two-stage process of competitive selection of contractor on basis of price and negotiation of contract details and firm price with the contractor appointed at the first stage.

On the first stage, contractors will be assessed on the basis of construction programmers, method statements, pricing of preliminaries, overheads, and profits. In the

second stage, negotiation between the client and the contractor on price is undertaken. If agreed it becomes the contract price (Chinyio, 2011). This approach is advantageous in that it facilitates early appointment of a contractor and it combines strengths of competition and negotiation while its disadvantage is that the preferred contractor may fail to negotiate for the competitive price and negotiation may drag on and compound the complexity of the process. All these discussed tendering approaches in this section are exploited for this study. Tendering approaches that are used for selecting a contractor for a project can affect project performance. If the tendering procedure used is such that focuses on low tender price, this may result in increased risk of cost overrun on the project due to high cost of variation orders (Assaf and Al-Heiji, 2006). As stretched by Iyer and Jha (2005) as cited in Soyombo and Ogunsanmi (2011) there is a need to be careful of contractor selection on projects as to reduce cost growths.

A study by Ogunsanmi (2013)-Effects of Procurement Related Factors on Construction Project Performance in Nigeria, literature review was undertaken to identify procurement selection criteria factors, tendering methods and variation order factors that can impact on project performance. A structured questionnaire was designed to collect information on procurement selection factors that sought for the effects of procurement selection factors on project performance. The population of the study consisted of Architects, Builders, Engineers, and Quantity Surveyors who have been involved in some recent procurement in the Nigerian construction industry. Snowballing sampling technique was used for selecting the sample. Forty (40) firms were selected in Lagos metropolitan city and questionnaires were sent out to the various respondents in these organizations. Thirty-one (31) questionnaires were retrieved from these respondents that were used for the data analysis. Descriptive statistical tools in form of Tables and mean item score as well as inferential statistical tools of chi-square and Analysis of Variance were used for the analysis of the data collected from the respondents.

Results showed that competitive tendering (RIF= 0.78) has a very high impact on project performance as it ranks first, selective tendering (RIF = 0.77) also has a very high impact on project performance as it ranked second, open tendering method and negotiated tendering method (RIF = 0.76) both rank third and also have high impacts on project performance. Turnkey tendering method (RIF =0.65) ranked ninth and it has very low impact on project performance. The results demonstrated that the type of tendering methods used in a procurement method could influence the performance of the method. It also showed that the calculated F-value ($F_{cal}=0.75$) is quite lower than the tabulated value

($F_{tab}=1.94$) hence the result is not significant. It supports the null hypothesis and hence it is accepted. It implies that there is no significant difference between the impacts of the tendering methods on project performance. Each of the tendering methods has equal impacts on project performance.

2.7. Theoretical framework

Resource Based View (RBV) Theory developed as a complement to the industrial organization view with Bain (1968) and Porter (1985) as some of its main proponents. With its focus on the structure conduct-performance paradigm, the industrial organization view put the determinants of firm performance outside the firm, in its industry's structure. Being positioned against this view, the RBV explicitly looks for the internal sources of sustained competitive advantage and aims to explain why firms in the same industry might differ in performance. As such, the RBV does not replace the industrial organization view, rather it complements it (Peteraf & Barney, 2003). RBV proponents argue that simultaneously valuable, rare, inimitable and non-substitutable resources can be a source of superior performance and may enable the firm to achieve sustained competitive advantage. The RBV of the firm is therefore a suitable approach to understanding the competitive dynamics whereby resources are intangible and tangible assets linked to the firm in a semi-permanent way, including: technological, human and physical assets.

However, having resources alone is not sufficient, therefore, RBV theory adds a category of capabilities which result from complex patterns of interactions and coordination between resources (Wong & Karia, 2010). RBV maintains that resources and capabilities are often synergistic in nature and can be more valuable when combined. RBV proposes that firms have different resource endowments, and that the manner in which they require, develop, maintain, bundle and apply them leads to the development of competitive advantage and superior performance over time. RBV tenets prescribe that resources and capabilities, for instance bundle of resources need to be valuable, rare, inimitable and organizationally utilizable, for example a firm has complementary resources to leverage and maximize capabilities to drive sustainable competitive advantage. In general, RBV theory indicates that exploiting a firm's non-imitable resources enables a firm to create long-lasting competitive capabilities and to generate a competitive advantage (Paulraj, 2011).

Goal-setting theory by Edwin Locke in the late 1960s. This theory is the most impactful in the construction industry, as it is widely accepted and applied to worker's productivity. In the late 1960s, Edwin Locke proposed that people are motivated to work when they have a goal (Greenberg & Baron, 2000). Goals tell an employee what needs to be done and how much effort will have to be expended. This theory is widely utilized in the construction industry because productivity per day of any trade is based on a certain output of work. For instance, Project procurement is very much concerned with the organized methods or process and procedure of obtaining or acquiring a construction product such as a house, shopping complex or road and jetty. Project procurement also involves arranging and coordinating people to achieve prescribed goals or objectives. This is related to the concept of goal-setting theory which presupposes that an individual is committed to the goal, that is, is determined not to lower or abandon the goal. Gordon (2002) observes that goal-setting focuses behaviour and motivates employees. This is most likely to occur when goals are made public, the phenomenon most often experienced in the construction industry.

It is note-worthy that resistance is greater when goals are difficult. The study is grounded on goal setting theory by Edwin Locke in the late 1960s. This theory is the most impactful in the construction industry, as it is widely accepted and applied to worker's productivity. Edwin Locke proposed that people are motivated to work when they have a goal (Greenberg & Baron, 2000). Goals tell an employee what needs to be done and how much effort will have to be expended. This theory is widely utilized in construction industry because productivity per day of any trade is based on a certain output of work. For instance, project procurement is very much concerned with the organized methods or process and procedure of obtaining a construction product such as a house, shopping complex or road. Project procurement also involves arranging and coordinating people to achieve prescribed goals or objectives. This is related to goal setting theory which presupposes that an individual is committed to the goal, that is, is determined not to lower or abandon the goal. Gordon (2002) observes that goal setting focusses behavior and motivates employees. This is most likely to occur when goals are made public, the phenomenon most often experienced in the construction industry.

2.8. Conceptual Framework

The analysis of the dependent variable and its influence on the independent variables, makes it possible to find answers to the research problem represented in form of a model known as a conceptual framework (Sekaran, 2009). In this study, the independent variables are: buyer-supplier relationships, supplier selection procedures, organizational capacity and procurement process management while the dependent variable is the effect of procurement practices on organizational performance as shown in the figure 2.1

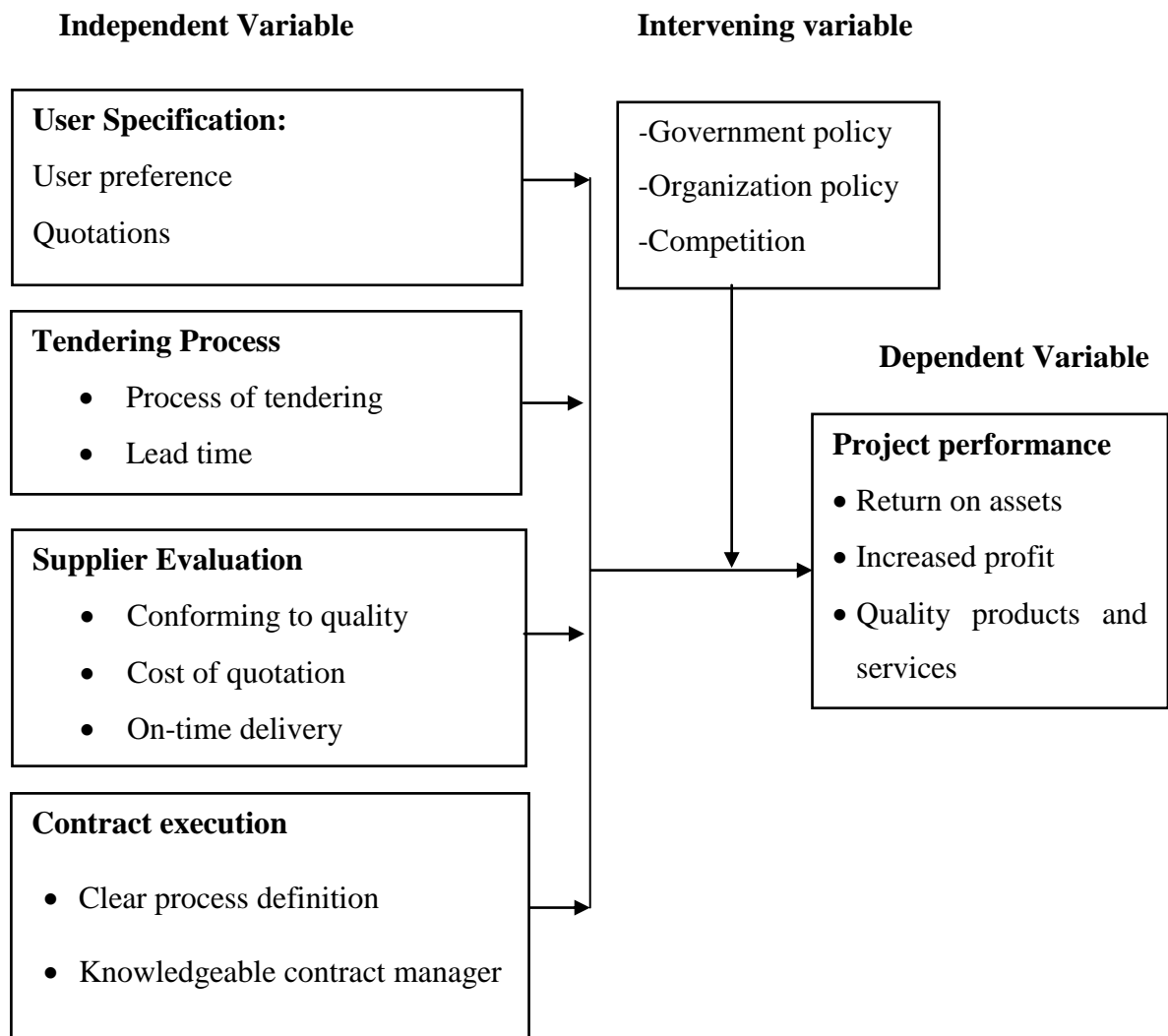


Figure 2.2: Conceptual framework

Source: Researcher (2018)

From the conceptual flow chart figure 2.1, the completion of housing construction project is an interaction of independent variables (User specification, tendering process,

supplier evaluation and contract execution) during housing construction process. The dependent variable (project performance) indicators showing fulfilment in the housing construction demonstrate increased profit, return on assets, quality products and services. Their absence would lead to low profits, low return on assets and low quality services. The interaction of all these variables would determine the level of housing project performance.

The performance level of housing construction project explains the extent independent variables have interacted in the construction process in Nakuru County. It permitted a conclusion to be made on the influence of procurement on project performance in Nakuru County. High level of performance shows how well the officers worked hand in hand during the procurement process.

On the other hand, low level performance of projects represents a situation where the various officers did not perform their roles well. Any inept handling of these projects at all stages leads to poor performance of projects. Finally, procurement needs measured influence and factors behind the existence of procurement process in Nakuru County. The intervening variables on the other hand influences the relationship between the independent variables and the dependent variables in that if there is low performance in the housing of projects, procurement officers will be willing to allow use of procurement process improve their performance and vice versa.

2.9. Summary of Literature Reviewed

The study involved intensive review of literature related to influence of procurement lifecycle on performance projects. From the literature reviewed, a number of gaps emerged which further informed the direction the study took. One, procurement involved arranging and coordinating people to achieve prescribed goals or objectives. The Aqua Group (1999) described procurement as the lifecycle of obtaining or acquiring goods and services from another for some consideration. It is in a sense very true because the process of “obtaining” a building by a client involves a group of people who are brought together and organized systematically in terms of their roles, duties, responsibilities and interrelationship between them (Ogunsanmi, 2013)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is organized under the following topics: Research design, target population, sample selection and sample size, research instruments, validity and reliability of the instrument, data collection procedures and data analysis techniques.

3.2 Research Design

The study adopted descriptive survey design. It is a self report study which requires the collection of quantifiable information from the sample (Mugenda and Mugenda, 1999). According to Mugenda and Mugenda (2003), descriptive survey design is easy to manage and administer. The design enables the researcher to quickly collect data from an extensive area and understand the entire population from a sample of it (Kothari, 2003). A descriptive survey design was used in this study to investigate the current situation with regard to procurement processes and how it influences the successful completion of construction projects. Best and Kahn (1993) and Abagi (1996), describe descriptive survey design as a form of design that presents existing conditions, practices, beliefs, attitudes or opinions held, processes going on and trends for developing interpretation of meaning.

3.3 Target Population

The target population included County assembly of Nakuru members of the procurement department and Ministry of works officers in Nakuru County there were 50 offices, 50 managers, 670 clerks, 10 employees in procurement department and from county assembly of Nakuru and 10 officers from the ministry of works. Therefore the target population was 50 managers, 670 clerks, 10 committee members for procurement and development from county assembly of Nakuru and 10 officers from the ministry of works making a total study population of 740 as tabulated in table 3.1

Table 3.1: Target population

Sub-counties	Managers	Clerks	Procurement officers	Ministry of works	Frequency
Kuresoi	6	65	1	1	73
Rongai	6	70	1	1	78
Gilgil	5	68	1	1	75
Nakuru north	6	82	1	1	90
Njoro	5	68	1	1	75
Molo	5	70	1	1	77
Naivasha	6	69	1	2	78
Nakuru	6	90	2	1	99
Subukia	5	88	1	1	95
Total	50	670	10	10	740

Source: Researcher (2018)

3.4 Sample size and Sample procedure

This section describes the sample size and sampling procedure employed in this study.

3.4.1 Sample size

To determine the sample size, the researcher used 30% of the target population as the sample size as suggested by Kothari (2004) thus the sample size for the study was 222 comprising of managers, clerks, county assembly procurement committee and officers from the ministry of works in Nakuru County

Table 3. 2: Sample size

Category of Respondents	Population	Sample Size
Managers	50	50
Clerks	670	152
Procurement officers	10	10
Ministry of works	10	10
Total	740	222

Source: Researcher (2018)

3.4.2 Sampling Procedure

The study employed both purposive and systematic random sampling to obtain respondents for the study. Purposive sampling ensures that all the managers, all the county assembly committee members and all Ministries of works officials provided information

concerning the subject of study. Systematic random sampling was used to select 172 workers from the 50 county offices whereby every 6th worker was systematically selected from a list comprising all employees in all the county offices.

3.5 Research Instruments

To attain the aim of the survey, the researcher used three sets of tools which were self-made and derived from the background to the study, the purpose of the study; the objectives that guided the study, the literature reviewed and study design. The study adopted the use of the questionnaires and interview schedules. Orodho (2010) asserts that in Education and social science research, observation forms, questionnaires and interview schedule are most commonly used. The data collection instruments therefore, included the questionnaires for procurement officers, clerks and other officers from the relevant ministries. The use of questionnaire was most preferred since the target group was mainly literate and the time of study was limited. The questionnaires included a set of structured and unstructured questions. Questionnaires were expected to enable the researcher obtain results within a considerably short time. Amin (2005) and Sarandakos (1988) confirm the usefulness of questionnaires in terms of their simplicity, time used and easiness for a researcher to administer. The respondents were kindly requested to respond to all items in sections, consistency and freedom of expression by respondents. Mugenda and Mugenda (2003) and Amin (2005) observe that interviews are useful since they fetch variety of ideas needed for the study.

3.5.1 Piloting of Research Instruments

The structured questionnaires were pretested in three county offices which were not participating in this study to determine if the items in the research instruments yielded the required data for the final study.

3.5.2 Validity of instrument

According to (Kothari, 2004), a research is valid when its survey instrument measures what it is actually supposed to measure. Therefore validity of the study instrument refers to the extent to which the results of data collected by the questionnaire in this study can be generalized to relate with other studies that have been conducted. According (Rundowns, 2009), it is difficult to have an instrument 100% valid and hence

validation process will focus in increasing the accuracy when collecting and analysing data. One of the ways that this study will try to taste the validity of the instrument is through piloting.

3.5.3 Reliability of instruments

Grinnel (1993) defines reliability as that which measures the degree of accuracy in the measurement that an instrument provides. There are different ways to determine the reliability of instrument but this research will use test-re test method. This is where consistency of the data is measured over time (Rundowns, 2009). This will be done to a number of individual used for piloting. The respondents used in piloting stage will be given the first priority in the survey. If there answers are consistent with unaltered questions in the questionnaire then the study will be reliable.

3.6 Data collection Procedure

A letter of remittance was drafted by the researcher addressed to respondents requesting to access the premise and conduct the interview and to give out questionnaires. The researcher carried the letter during data collection, presenting it before the in-charge person requesting to be given permission to conduct research. The researcher then proceeded to collect data after permission was granted. During data collection, every randomly selected employee and purposively sampled director was requested to complete the questionnaire and there was also face to face interview with the five directors.

3.7 Data Analysis Technique

After data had been collected, the responses to the close-ended items in the data collection instrument were assigned codes and labels. Frequency counts of the responses were then obtained, to generate descriptive information about the respondents that participated in the study and illustrated the general trend of findings on the various variables that were under investigation. This involved the use of percentages and tables because, according to Mugenda and Mugenda (2003) and Sarantakos (1998), they help to summarize large quantities of data whilst making the report reader friendly.

On the other hand, the data from the interviews were carefully read. The responses edited for grammatical correctness, coherence, chronology and precision and presented as quotations so as to triangulate the data obtained through the administration of the close

ended instruments, which is quantitative in nature. The analysis was done using descriptive statistics (use of tables, frequencies and percentages) and correlation.

3.7. Operationalization of variables

Table 3. 3: Operationalization of variables

Objective	Variables	Indicators	Measurement scale
To examine the extent user specification influence housing construction project performance in Nakuru County	Independent variables User specification Dependent variable Completion of housing construction project.	<ul style="list-style-type: none"> • User preference • Quotations 	Ordinal nominal
To assess the extent tender process influence housing construction performance in Nakuru County	Independent Tender process Dependent Completion of housing construction project	<ul style="list-style-type: none"> • Process of tendering • Lead time 	Ordinal nominal
To assess extent to which supplier evaluation influence housing construction project performance in Nakuru County	Independent Supplier evaluation Dependent Completion of housing construction projects	<ul style="list-style-type: none"> • Conforming to quality • Cost of quotation • On-time delivery 	Ordinal nominal
To assess out the influence of contract execution on housing construction project performance	Independent Contract execution Dependent Completion of housing construction projects	<ul style="list-style-type: none"> • Clear process definition • Knowledgeable contract manager 	Ordinal nominal

Source: Researcher(2018)

3.9 Ethical Considerations

In his work, Orodho (2009) underscores the noteworthiness of calculated and moral issues that each scientist must know before attempted an exploration project and proceeding to the field. Along these lines, before setting out on the review, the analyst needed to look for consent from the applicable authorities to look for their endorsement and co-operation. The respondents were informed and assured of confidentiality. For the respondents to remain anonymous, they were not required to give their names and notified of the same before answering the questions.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter consists of the data analysis, presentation, interpretation and discussion. This chapter has background information of the respondents and organized according to the objectives of the study. The analyzed data is presented using frequency distribution tables preceded by interpretation and discussions of findings on the influence of procurement process on successful completion of construction projects in Nakuru County.

4.2 Questionnaire return rate

The researcher gave out 222 questionnaires to respondents. The researcher collected 160 questionnaires from the respondents. This represented 72.07% of all the questionnaires given. This was a good number for analysis purpose.

4.3 Background information

Background of the respondents was analyzed. The areas analyzed included gender, age, working experience in current position and Qualification of respondents.

4.3.1 Gender of respondents

The first question asked respondents to indicate their gender. The responses showed that majority (75.0%) were male and 25% were female. Male's domination among the respondents over and above female's representation shows that more men than female are engaged in procurement processes in constructions in Nakuru County as shown in table 4.1

Table 4. 1: Gender Characteristics of Respondents

Gender	Frequency	Percentage
Male	120	75.00
Female	40	25.00
Total	160	100.00

Source: Primary data (2018)

From the reviewed literature there was no past research evidence that had linked gender of the participants with the influence of procurement process on successful completion of construction projects in Nakuru County. This meant that, although men were the majority among the sampled respondents; gender was an insignificant factor in relation to this research study.

4.3.2 Age of Respondents

The study obtained details about the age groups of the respondents for purposes of understanding their age and possibly the experience they possess in procurement process.

Details of the findings are shown in table 4.2

Table 4. 2: Distribution of Respondents by Age Groups

Age group (yrs)	Frequency	Percentage
19-25	06	03.75
26-35	37	21.25
36-45	30	18.75
46-55	40	50.00
56 and above	10	06.25
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

The findings showed that 50% of the respondents were of age between 45-55, 21.25% of age between 26-35, 18% between 36-45, 06.25% between the age of 56 and over and lastly 3.75% between 19-25. Majority of the respondents are of age and have understanding therefore on issues involving procurement procedures in relation to performance of projects within Nakuru County.

4.3.3 Working experience in current position in years

Respondents were also required to give their working experience in present position in years. Their responses were shown in table 4.3

Table 4.3: Working experience in current position in years

Working experience in current position	Frequency	Percentage
0-4	18	11.25
5-9	86	53.75
10-14	38	23.75
Above 15	18	11.25
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the table 4.3, 86(53.75%) have worked between 5-9 years, 38(23.75%) have worked for 10-14 years and 18(11.25%) had worked for 0-4 and 18(11.25%) above 15 years. This concludes that majority of the respondents are experienced enough to handle procurement procedures and understand the requirements.

4.3.4 Distribution of Respondents by Highest Level of Education

Respondents were also asked to indicate their educational qualification. The findings were tabulated as shown in Table 4.4.

Table 4. 4: Distribution of Respondents by Highest Level of Education

Qualification	Frequency	Percentage
Certificate	16	10.00
Diploma	80	50.00
First degree	56	35.00
Masters	08	05.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

As shown in Table 4.4, the study findings revealed that majority 50.00 percent of the respondents had attained a diploma. 35.00% had first degree, 10.00% had a certificate, and only 05.00% had master's degree. The results showed that majority of the respondents had quite a good qualification and knowledgeable in matters involving procurement and how they affect performance of projects.

4.4. Influence of Tendering process on completion of Projects

The study sought to establish the selection process of tenders and respondents were asked if it affected the completion of projects. Their responses were tabulated in the table below:

4.4.1 Selection process of tenders

Respondents were to indicate whether the selection process of tenders affected housing projects.

Table 4. 5: Selection process of tenders

Selection process of tenders	Frequency	Percentage
Strongly agree	80	50.00
Agree	54	33.75
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	26	16.25
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the table 4.5, 80(50.00%) of the respondents strongly agreed that selection process of tenders affected performance of projects, 54(33.75%) agreed, 26(16.25%) strongly disagreed.

4.4.2 Tender documentation

Respondents had to indicate if tender documentation affected completion of housing projects. The responses are shown in the table 4.6

Table 4. 6: Tender documentation

Tender documentation	Frequency	Percentage
Strongly agree	54	33.75
Agree	80	50.00
Not sure	00	00.00
Disagree	26	16.25
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the table, 80(50.00%) of the respondents agreed that tender documentation affected performance of projects, 54(33.75%) strongly agreed, 26(16.25%) disagreed. Tender documentation is important because it ensures accuracy because there are occasions when tenders received have been seriously flawed. It needs to be known that Competitive tendering approach is used where various contractors of all categories are welcomed to submit tenders. According to Chinyio (2011) competitive tendering must have three stages of (1) prequalification, (2) tender documentation and (3) bidding.

4.4.3 Call for Tenders

Respondents were also asked to indicate if call for tender affected performance of housing projects. The responses were as shown in the table 4.7

Table 4. 7: Call for Tenders

Call for tenders	Frequency	Percentage
Strongly agree	26	16.25
Agree	112	70.00
Not sure	22	13.75
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the table 4.7, 112 (70%) of the respondents agreed that call for tenders affected housing construction projects, 26 (16.25%) strongly agreed and 22(13.75%) were not sure. It is the tender manager's primary function whether to call or not call for any tenders. Calling for tender indicates that the manager is aware of the plan, production, finance, legal, and commercial and personnel requirement for the project. This makes it possible to ensure the right experts come for tender meetings and in turn bidders suggest the correct specifications for the required products and services. Different tendering methods have been used in construction projects for inviting tenders. The study finds support with Ramus (1981), Manthosi and Thawala (2012) and Ganderton (2012) who argue that there

are various methods such as open selective, negotiation, competitive, open selective, design and build tendering approaches that have been used in construction projects. In addition, serial and two-stage tendering methods have been significantly used also in construction projects. As such selection process of tenders, Tender documentation, Call for tenders are such criterion used in these tendering methods.

4.4.4 Responding to tenders

The research was to establish if response to tenders affected completion of construction projects. The responses are shown in the table 4.8

Table 4. 8: Responding to tenders

Responding tenders	Frequency	Percentage
Strongly agree	26	16.25
Agree	108	67.50
Not sure	00	00.00
Disagree	26	16.25
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

It was shown that 108 (67.50%) of the respondents agreed that response to tenders affected completion of construction projects. 26(16.25%) strongly agreed and 26(16.25%) disagreed. The suppliers respond to tenders for one to be given chance to supply products or services. Positive response to tenders makes the manager obtain all relevant documentation.

4.4.5 Tender meetings

The study sought to establish if tender meetings influenced completion of construction projects. The results were put in the table 4.9

Table 4. 9: Tender meetings

Tender meetings	Frequency	Percentage
Strongly agree	18	11.25
Agree	118	73.75
Not sure	24	15.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

The study found out that 118(73.75%) agreed that attending tender meetings influenced completion of construction projects. 24(15%) of the respondents were not sure and 18(11.25%) strongly agreed. The pre tender meetings are attended by all bidders to clarify any concerns bidders may have with the solicitation documents, scope of work and other details of the requirement. .Also project managers attend tender opening meeting to evaluate the tenders. This makes work to proceed as scheduled.

4.4.6 Amendment to tender

The researcher sought to establish if amendment to tender influenced completion of projects. The respondents had the following to say as tabulated in table 4.10

Table 4. 10: Amendment to tender

Amendment tender	Frequency	Percentage
Strongly agree	20	12.50
Agree	46	28.75
Not sure	44	27.50
Disagree	48	30.00
Strongly disagree	02	01.25
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the responses, 48(30.00%) of the respondents disagreed that amendment to tender influenced completion of projects, 28.75% agreed, 27.50% were not sure, 12.50% strongly agreed and 1.25% strongly disagreed. Seemingly there are challenges when it came to amendment to tender that is why the respondents disagreed that it influenced completion of construction projects.

4.4.7 Submission and closing of tenders

Further, the study was to establish the influence of submission and closing of tenders on completion of projects. The responses were as in table 4.11.

Table 4. 11: Submission and closing of tenders

Submission and closing of tenders	Frequency	Percentage
Strongly agree	14	08.75
Agree	50	31.25
Not sure	38	23.75
Disagree	54	33.75
Strongly disagree	04	02.50
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Table 4.11 shows 33.75% of the respondents disagreed that submission and closing of tenders affected completion of projects. 31.25% agreed, 23.75% were not sure, 8.75% strongly agreed while 2.5% strongly disagreed. Time is an attribute of performance. As such, no tender received after the time and date specified for opening is not normally accepted or considered by the tendering committee.

4.4.8 Tender selection and award

To also test if tender selection and award affected completion of construction projects responded had the following to say:

Table 4.12: Tender selection and award.

Tender selection award	Frequency	Percentage
Strongly agree	86	53.75
Agree	70	43.75
Not sure	04	02.50
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the responses, 53.75% of the respondents strongly agreed that tender selection and award affected completion of construction projects. 43.75% agreed and 2.5% were not sure. As stretched by Iyer and Jha (2005) as cited in Soyombo and Ogunsanmi (2011) there

is a need to be careful of contractor selection on projects as to reduce cost growths. In addition, Procurement Act (2007) argues that competitive tendering be employed since it is to encourage due process, accountability and transparency though this involves high bidding cost, conflicts of interest as is not guaranteed that the lowest tender wins the project.

All the aforementioned indicators are what Eriksson and Westerberg (2012) postulated to be different procurement factors at the design, bid invitation, bid evaluation and sub-contractor selections stages that have various influences on project performance that too affect completion of construction projects. Rasid et al. (2006) also indicated that different procurement methods offer different allocation of responsibilities, activities sequencing, process and procedure and organizational approach that would affect project performance.

4.5 Influence of client selection criteria on housing construction projects.

The study sought to establish the influence of client selection criteria on housing construction projects.

4.5.1 Cost related factors

The respondents were asked to react to some cost related indicators. First, they were asked to indicate if cost related factors influenced housing construction projects. The results were tabulated in the table 4.13

Table 4. 13: Cost related factors

Cost related factors	Frequency	Percentage
Strongly agree	74	46.75
Agree	86	53.75
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

The results showed that 86 (53.75%) respondents agreed that cost related factors influenced completion of construction projects while 74(46.25%) strongly agreed. All the respondents unanimously agreed on this. This agrees Ogunsanmi (2013), who said that cost related factors of capital cost of the project, maintenance cost, prequalification cost, financial risk amongst other variables can influence a client to select a particular procurement method that meets all these client requirements.

4.5.2 Time related factors

Respondents were also asked to indicate if time related factors influenced completion of construction projects. Their responses were as shown in table 4.14

Table 4. 14: Time related factors

Time related factors	Frequency	Percentage
Strongly agree	32	20.00
Agree	108	67.50
Not sure	00	00.00
Disagree	20	12.50
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

On the time related factors, 108(67.5%) respondents agreed that time related factors influenced completion of construction projects. 32(20%) strongly agreed while 20(12.5%) disagreed. 100% of the respondents strongly agreed to this. The study agrees with Ogunsanmi (2013) who too postulated that time related factors of planning and design time, construction time, early start of project, speed of construction and time overrun can help client to select an appropriate procurement method.

4.5.3 Quality related factors

The study also sought to establish if quality related factors influenced completion of construction projects. The respondents gave the following responses shown in table 4.15

Table 4. 15: Quality Related Factors

Quality related factors	Frequency	Performance
Strongly agree	52	32.50
Agree	82	51.25
Not sure	26	16.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From table 4.15, 82(51.25%) agreed that quality related factors influenced completion of construction projects. 52(32.5%) strongly agreed while 26(16.25%) were not sure. Ogunsanmi (2013) continued to explain that quality related factors of design reliability, aesthetic appearance of the building, workmanship amongst other variables are considered to be important. As such they influence completion of construction projects.

4.5.4 Project characteristics and General needs

To establish if project characteristics and general needs influenced completion of construction projects, respondents gave the following responses shown in table 4.16

Table 4. 16: Project characteristics and General needs

Project characteristics and general needs	Frequency	Percentage
Strongly agree	00	00.00
Agree	90	56.25
Not sure	46	28.75
Disagree	24	15.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Results showed that 90(56.25%) respondents agreed with this notion, 46(28.75%) were not sure and 24(15%) disagreed. This seems to concur with Ogunsanmi (2013) who said that General needs factors of involvement of parties, their transparency, accountability, safety requirements and flexibility of the procurement process to client charges are also important. Project characteristics factors like; project type, size, cost, degree of flexibility, complexity, time constraints, payment method, finding methods and innovative technology.

4.5.5 External environment and housing construction projects

Lastly on this theme the study sought to establish if the external environment influenced completion of construction projects. The respondents had the following responses tabulated in table 4.17

Table 4. 17: External environment

Tender selection award	Frequency	Percentage
Strongly agree	26	16.25
Agree	112	70.00
Not sure	22	13.75
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Table 4.17 shows that 112(70.00%) respondents agreed that the external environment influenced completion of construction projects.26 (16.25%) strongly agreed and 22(13.75%) were not sure. Ogunsanmi (2013) too agreed that external environment factors should also be considered in addition to nature of the market, government policies, government as major client, regulating feasibility, technology feasibility amongst other variables.

4.5.6 Rating of influence of client selection criteria on completion of housing projects

The respondents were also asked to rate the following about the client selected and influence on completion of construction projects. (Rating scale: 1-Strongly agree, 2-Agree, 3-Not Sure, 4-Disagree, 5-Strongly disagree).Their responses were tabulated below

Table 4.18: Rating of influence of client selection criteria on housing construction Projects

For item one in Table 4.18; the mean value was calculated using the formula $\sum fx/\sum f$ where $\sum fx$ is the sum of product of f = frequency of responses and x = the likert scale range of values from (1,2, 3, 4 and 5) and $\sum f$

Rating of influence of client selection criteria on housing projects		1	2	3	4	5	Mean	Standard deviation
Adoption of procurement route	Frequency	13	54	13	00	00	2.00	0.84
	Percentage	16.25	67.5	16.25	00	00	100	
Quality of projects	Frequency	26	41	13	00	00	1.84	1.8125
	Percentage	32.5	51.25	16.25	00	00	100	
Clients' creativity	Frequency	20	37	13	07	03	2.2	1.7
	Percentage	25	46.25	16.25	08.75	03.75	100	
No. of projects completed	Frequency	00	47	17	09	09	2.7	1.05
	Percentage	00	58.75	21.25	11.25	11.25	100	
Mean of 4 on (1-5)							2.185	1.35

Source: Respondents' Questionnaires field work (2018)

Letter f is the sum of f = frequency of respondents who had attested to a particular rating scale among the range of (1-5) in their responses. The mean value was calculated as $\sum fx/\sum f = (13 \times 1 + 54 \times 2 + 13 \times 3 + 0 \times 4 + 0 \times 5)/80 = 160/80 = 2.00$. The rest of the mean values in the study were calculated in the same way.

Standard deviations were also calculated to show variability or consistency among responses per item. The Std dev = $(\sum f(x-3)^2/\sum f)$ where 3 was used as the assumed mean. For item one in Table 4.18; the standard deviation value was calculated as $\sum f(x-3)^2/\sum f = (13 \times 4 + 15 \times 1 + 13 \times 0 + 0 \times 1 + 0 \times 4)/80 = 67/80 = 0.84$. The rest of the standard deviation values in the study were calculated in the same way.

The mean value of 2.185 on average from the likert scale range of (1-5) indicates that the respondents' rating agreed that client selection criteria had significant influence on completion of housing construction Projects in Nakuru County. The fact that the standard deviation calculated (Std Dev = 1.35) was outside one deviation from mean shows that we can't be 99% confident that all respondents were consistent in their responses.

4.6 Influence of Control regulations in procurement on housing Construction projects

The study sought to establish the influence Control regulations in procurement on housing construction projects. They were asked if they understood the public procurement law. All (100%) the respondents agrees that they understood it. When asked if the procurement law was useful to their Companies, all of them (100%) agreed. They cited among others that the procurement law seals loopholes in the procurement of goods/services, it ensures that good quality products are produced at the right time, it regulates the procurement procedures, offers advice to committee, enables good execution of work and build efficiency and boost public confidence in the procurement process.

It was also established that summaries of information about public procurement was available to 66.25% of the respondents (e.g. number of bids received, number of contracts awarded, names of foul bidders) 33.75% of the respondents don't access these information. Those who access the information get it on quarterly, monthly or yearly basis. Some get it whenever there is a tender or quotation openin. According to 66.67% of the respondents these information are published yearly and 33.33% said that theirs is published quarterly. Kumaraswamy (2006) argues that public procurement law; one is the comprehensive transparent legal and institutional framework, two is the clear and standardized procurement procedures and standard tender documents, three is the independent control system, four is the proficient procurement staff and five is the anti-corruption measures. The legal and institutional framework stipulates that the PPOA establishes the public

procurement board as a legal corporate entity. This entity would comprise of ministries, departments agencies and all parastatal establishments that utilize public funds.

When asked about the types of goods or services they use procurement for, 66.67% of the respondents said that they use it for Machinery, 33.33% for Stationary and consumables. 50% of the respondents said that they use low value tendering method and the other 50% used request for quotation for the procuring of items specified. Others methods used are open tender and restricted tendering. Different tendering methods have been used in construction projects for inviting tenders. The study agrees with Ramus (1981), Manthosi and Thawala (2012) and

Ganderton (2012) that there are various methods such as open selective, negotiation, competitive, open selective, design and build tendering approaches that have been used in construction projects. In addition, serial and two-stage tendering methods have been significantly used also in construction projects. According to Mathonsi and Thawala (2012) the use of open tendering method involves placing an advertisement in a widely read newspaper to invite prospective contractors to tender and it is strongly criticized for its increased cost of processing.

The study established that 83.75% of the respondents face challenges in the procurement of goods. The kind of challenges faced while procuring include insufficient funds to procure the goods/services, substandard items that compromise quality, suppliers not supplying on time and influence from the political divide. The reason(s) for the challenge(s) faced in the companies include the management not following the procurement plan strictly, beauracracy, not paying suppliers on time, members not understanding the procurement act and regulations and lack of expertise to prepare specifications. Challenges in procurement of goods and services are there in most institutions in both developed and developing countries; for instance (ABD/ OECD, 2008) focused on the various instruments

used to fight corruption and bribery. China and Indonesia were said to have used international instruments such as the UN Convention against Corruption and the OECD anti-bribery instrument set standards for anti-corruption policies in procurement frameworks.

The respondents were asked if reasons for the challenges were resolved or were in the process of being resolved. 50% indicated that they were being resolved, 16.67% said that they have not been resolved while 33.33% indicated that they were in the process of resolving. Methods for resolving include planning for payment, teaching the members the importance of adhering to rules and regulations of procurement and training on how to come up with product/service specifications. In Ghana, according to Gnanih (2012) the findings showed that The Procurement Act, 2003 has been put in place to bring about efficiency, effectiveness and accountability. The study also showed that although the government is making efforts to bring about efficiency, and effectiveness into the system or the procurement process; challenges are still out there.

The study found out that it takes mainly one week to prepare for bid (50% of the respondents). 33.33% indicated that it takes 1-2 months while 16.67% said it took 3-4 months. Likewise the researcher found out that 66.67% indicated that it takes one week for them to respond to contract advertisement .16.67% said that they take 2 week and another 16.67% take one month. It was also established that 50% of the respondents indicated that the contracting authority took one week to evaluate and respond to tender documents that they submit. The other 50% of the respondents indicated that the authority took one month.

From the study, 66.67% of the respondents disagreed that Procurement Act causes delays in awarding contracts while 33.33% of them agreed. Just like Gnanih (2012) whose findings showed that The Procurement Act, 2003 in Ghana has been put in place to bring about efficiency, effectiveness and accountability; this study agrees with it. Though some

of the causes of the delay in paying contractors as mentioned by the respondents who agreed that Procurement Act causes delays included delay in disbursement of funds from the national government that affects payment of contractors , not utilizing votes well hence depleting money meant to pay contractors and compilation problem in tendering process for contraction works.

The researcher sought to establish if delay in payment affected the management of the respondents' companies in any way. All (100%) acknowledged that it does affect. They further explained that it affected because of lack of funds that hampers service delivery. It was also noted that client and suppliers loose trust and confidence in them and the companies because their money is locked up. Also delays attract penalty. Lastly, when the researcher questioned if there was unnecessary levels of approvals or cumbersome procedures for procurement, 83.75% of the respondents agreed while 16.25% disagreed. From those who agreed, 60% said it was much and 40% said it was little. Gnanih (2012) seems to agree with these findings because Gnanih (2012)'s the findings showed that bureaucracy in the system prevented good management of the schools, unskilled professional procurement officers, and delay in funds.

Procurement Act in Ghana created order in the system but changes were still needed to make the system fully effective, efficient and transparent.

4.7 Influence of Quality assurance on housing construction projects

The study sought to assess the risk associated with completion of road construction projects and the researcher rated the respondents.

4.7.1 Non completion of the housing construction project and effect on its viability

They respondents were asked to state the influence of non-completion of projects on their viability. Their responses were tabulated in table 4.19

Table 4. 19: Non completion of the housing project and effect on its viability

Non completion of the project and effect on its viability	Frequency	Percentage
Strongly agree	04	02.50
Agree	138	86.25
Not sure	18	11.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From table 4.19, 138(86.25%) agreed that non completion of housing projects affected the viability of the project. 11.25% were not sure of this while 2.5% of the respondents strongly agreed. Proper planning, design and implementation of projects leads to completion of projects on time and affects the extent to which projects can be viable. Rowings et al. (1987) agrees with these findings. The client is the entity which identifies the market need and starts the process that forms the genesis of the construction process. Project objectives are defined by the client independently, or in conjunction with advisers. Shaping a project's scope and complexity, therefore, lies very much in the hands of the client project inception team. The client commissions principal consultants and will also have input into the approval of sub consultants.

The melding of a project team into a cohesive entity that can achieve shared objectives has been identified as having an important influence on project success. In addition, in a recent report of five case studies in the USA, shared objectives of project team members was cited as an important factor influencing project success. This illustrates the significance of owners being clear in their goals and that communication of project goals and alignment of these goals for all team members is of critical importance (Rowings et al. 1987).

4.7.2 Exceeding of housing construction project budget

The researcher intended to establish if the budget will be exceeded if projects were not completed on time. Responses were put in table 4.20.

Table 4. 20: Exceeding of housing construction project budget

The project budget will be exceeded	Frequency	Percentage
Strongly agree	24	15.00
Agree	76	47.50
Not sure	26	16.25
Disagree	34	21.25
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

The study also found out that 76(47.50%) respondents agreed that the budget will be exceeded. 26(16.25%) were not sure of this while 24(15%) strongly agreed. It is good to involve all stakeholders and contractors for successful completion of projects. The main advantage of involving the builder early in the design process is that advice can be given on build ability and a practical design can be achieved which enhances CTP and reduces unnecessary costs (Ward et al., 1991).

4.7.3 Sensitivity of the projects to the environment and / or heritage issues

To determine whether the project will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval, the researcher collected the information below:

Table 4. 21: Sensitivity of the projects to the environment and / or heritage issues and/or environmental conditions and approval.

Sensitivity of projects to the environment and/or environmental conditions	Frequency	Percentage
Strongly agree	08.00	05.00
Agree	110.00	68.75
Not sure	32.00	20.00
Disagree	10.00	06.25
Strongly disagree	00.00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From table 4.21 it is clear that 110(68.75%) indicated that they agreed with the fact that project will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval thus affecting the completion of the projects. 32(20.00 %) were not sure and 10(06%) disagreed. Kiggundu (2011) seems to agree with this. The procurement entity is entitled in ensuring that the Contractor and Contractor's agents and representatives have visited, inspected and are familiar with the Site, its physical condition, roads, access rights, utilities, topographical conditions and air quality conditions, except for unusual or unknown surface or subsurface conditions, or unusual or unknown soil conditions, and have performed all reasonable investigations necessary to determine that the Site is suitable for the construction and installation of the Facility, and are familiar with the local and other conditions which may be material to Contractor's performance of its obligations under this Agreement (including, but not limited to transportation, seasons and climates, access, the handling and storage of materials and fuel and availability and quality of labor and materials). (Kiggundu, 2011) NEMA

4.7.4 Sensitivity of housing projects to the application of new technologies

The study also sought to establish if the project will be sensitive to the application of new technologies.

Table 4. 22: Sensitivity of housing projects to the application of new technologies.

Sensitivity of the project to the application of the new technologies	Frequency	Percentage
Strongly agree	30	18.75
Agree	80	50.00
Not sure	50	31.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From the study, 80(50%) agreed that the project will be sensitive to the application of new technologies. 50(31.25%) were not sure about this while 30(18.75%) strongly

agreed. This study seems not to agree with (Ward et al., 1991) who argued that the choice of any particular form of project delivery system will not automatically guarantee fast project completion. Furthermore, Ireland (1983) indicated that overlapped or fast-track construction can shorten the overall project delivery time but may increase the construction period. Others concluded that project delivery system is not a dependent factor in determining construction speed (Barnes and Partners 1984; Sidwell, 1984).

4.7.5 Failure of housing projects to operate within the design specifications

The table 4.23 was to establish if the facility will not be operating within the design specifications.

Table 4. 23: Failure of housing projects to operate within the design specifications.

Failure of projects to operate within the design specification	Frequency	Percentage
Strongly agree	00	00.00
Agree	26	16.25
Not sure	00	00.00
Disagree	134	83.75
Strongly disagree	00	00.00
Total	180	100.00

Source: Respondents' Questionnaires field work (2018)

From the table, 134(83.75%) disagreed that facility was not operating within the design specifications. 26(16.25%) agreed. The NEDO (1988) report agrees with these findings because it suggests that it is not essential that a brief to be detailed so long as instructions were defined, stating the client's priorities in terms that could be responded to by the consultants involved in the development of the brief. Many specialists may be required to contribute their expertise to both the briefing and design development phases. The NEDO report (1988) also demonstrates the central importance of a well-managed connection between design and construction for project success. Technology which the road construction projects may integrate with includes wifi, cctv, smoke sensors, armoury, cabling and reflectors.

4.7.6 Clients with well-defined and effectively communicated goals

As such; respondents had the following about the clients.

Table 4. 24: Clients with well defined and effectively communicated goals

Clients with well defined and effectively communicated goals	Frequency	Percentage
Strongly agree	30	18.75
Agree	130	81.25
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Majority 130(100%) of the respondents agreed that clients had well enunciated and effectively communicated goals. Kiggundu (2011) agreed that Contractor (including where applicable, through its relationships with Subcontractors and its Affiliates) possesses the know-how and wherewithal to oversee the design, engineering, procurement and construction work needed to complete construction of the Facility.

4.7.7 Clients innovative and effective housing construction project design teams

Table 4.25 also gave indications about clients and if they build a strong, imaginative and effective design team which seeks and positively responds to build ability advice.

Table 4. 25: Clients innovative and effective design teams.

Clients innovative and effective design teams	Frequency	Performance
Strongly agree	00	00.00
Agree	138	86.25
Not sure	22	13.75
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

The results indicated that 136(86.25%) respondents agreed that clients build a strong, imaginative and effective design team which seeks and positively responds to build ability advice. 22(13.75%) were not sure. As Sidwell (1984) observed, clients who get the

quickest results are those who provide the building team with well-defined specialized need and are able to become closely involved with the building process.

4.7.8 Appropriate distribution of risk in housing projects

The study sought to establish if Clients ensured that risk is appropriately distributed to those who can best control that risk. Responses were tabulated in the table 4.26

Table 4. 26: Appropriate distribution of risk in housing construction projects.

Appropriate distribution of risk in projects	Frequency	Percentage
Strongly agree	00	00.00
Agree	80	50.00
Not sure	46	28.75
Disagree	34	21.25
Strongly disagree	00	00.00
Total	80	100.00

Source: Respondents' Questionnaires field work (2018)

The study showed that 80(50%) respondents agreed that clients ensured that risk is appropriately distributed to those who can best control that risk. 46(28.75%) were not sure while 34(21.25%) disagreed. To ensure Quality Control/Quality Assurance (QA/QC), Contractor should retain a qualified person or firm to be responsible for quality control and quality assurance of the completed Work subject to the approval of Owner, not to be unreasonably withheld. According Kiggundu (2011), Quality Assurance /Quality Control Director shall be responsible, among other things, for developing procedures for testing materials, the oversight of materials testing, inspecting field assembled equipment (such as quality control of welding procedures and welding testing), verifying QA/QC of materials used in the manufacture of major equipment and verifying that all equipment and materials delivered to the Site meet the specifications of Engineer.

4.7.9 Clients taking responsibility when required in housing projects

To find out if clients took responsibility, when required, for providing timely, clear and responsible decisions, the following information in table 4.27 was established:

Table 4. 27: Clients taking responsibility when required in housing projects

Clients take responsibility when required	Frequency	Percentage
Strongly agree	00	00.00
Agree	108	67.50
Not sure	32	20.00
Disagree	20	12.25
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

From table 4.27, 108(67.50%) respondents agreed that clients took responsibility, when required, for providing timely, clear and responsible decisions.32(20%) respondents were not sure and 20(12.5%) disagreed with this. Indeed, to ensure quality assurance and quality improvement, stakeholders need to take responsibility, when required, for providing timely, clear and responsible decisions.

4.7.10 Clients promotion of an atmosphere for effective problem solving

The researcher also was to find out if clients engendered an atmosphere where cooperative problem solving within the team could be achieved. Table 4.28 summarizes the responses.

Table 4. 28: Clients promotion of an atmosphere for effective problem solving.

Clients promotion of an atmosphere for effective problem solving	Frequency	Percentage
Strongly agree	00	00.00
Agree	110	68.75
Not sure	50	31.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Table 4.28 shows that 110(68.75%) respondents agreed clients engendered an atmosphere where cooperative problem solving within the team could be achieved and 50(31.25%) were not sure. It needs to be noted that to ensure performance in industry such as construction, clients need to engender an atmosphere where cooperative problem solving within the team could be achieved. Kiggundu (2011) noted that the Contractor including where applicable, through its relationships with Subcontractors and its affiliates need to possess the know-how and wherewithal to oversee the design, engineering, procurement and construction work needed to complete construction of any Facility.

4.7.11 Clients ensuring proper accountability of team members

The study too was to determine if clients ensured proper accountability of team members and maintaining it without introducing or maintaining a legalistic mind-set of team members. Table 4.29 summarizes these.

Table 4. 29: Clients ensuring proper accountability of team members

Proper accountability of team members	Frequency	Percentage
Strongly agree	56	35.00
Agree	100	62.50
Not sure	00	00.00
Disagree	04	02.50
Strongly disagree	00	00.00
Total	160	100.00

Source: Respondents' Questionnaires field work (2018)

Table 4.29 shows that a sum of 100(62.50%) agreed and 56(35.00) strongly agreed that clients ensured proper accountability of team members and maintained it without introducing or maintaining a legalistic mind-set of team members. 4(2.50%) of the respondents disagreed. Ethics, Probity and Accountability in Procurement provides best practice guidance to assist Ethics, Probity and Accountability in Procurement Government agencies and employees in conducting procurement. Kiggundu (2011) agrees with this in

that the Contractor including where applicable, through its relationships with Subcontractors and its affiliates need to possess the know-how and wherewithal to oversee the design, engineering, procurement and construction work needed to complete construction of the any Facility. This implies that accountability of team members is key.

Further, the study sought to find out the Quality of service on part of procurement entity. The respondents were asked if they had a procurement entity in their companies. All (100%) agreed that they had. When asked if the entity ensured that the Contractor and Contractor's agents and representatives visited, inspected and were familiar with the Sites, their physical conditions, roads, access rights, utilities, topographical conditions and air quality conditions, 83.33% of the respondents agreed while 16.67% said that they entity did not. It was also established that 25% of the respondents did have a Quality Control/Quality Assurance desk while 75% did not have. To ensure quality service in the industry, the companies benchmark with other contractors, acquire the right materials at the right time and get the lowest bid for high materials/services. They also do so by inspection before acceptance.

The researcher also wanted to establish if the companies had embraced e-procurement in their companies. 69 (86.25%) of the respondents had not embraced it and 11(13.75%) had embraced it. For those who had embraced it, the procurement process as a whole had improved. For instance the suppliers are paid through Integrated Financial Management Information System (IFMIS) and customer service has improved.

4.8 Analysis from the Interview

The researcher interviewed procurement and development committee for Nakuru County assembly, Directors of the Construction Companies and Ministry of works officers. The interviewees noted that clients don't get satisfied with the way projects are implemented. They also noted that the projects take longer time than the estimated time to

get completed and that there are many variations to the project contract leading to high cost of the project. The study also found out that there is social and environmental impact, personal development and professional learning through the use of procurement process in place. Here, the procurement team learns new trends and updated procurement regulations. It was also cited that once projects are completed, they provide essential amenities to the society.

The interviewees considered their project teams to be confident. They positively viewed the procurement and tendering methods and selection criteria used. Open tendering was commonly used and the lowest bidder was always selected. There was also some economic impact of projects undertaken to the surrounding communities by the companies that were interviewed. These included improved trade, time saving and employment to workers.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The main point of the research was to study the influence of procurement processes on completion of housing construction projects in Nakuru County. The chapter focused on the summary of the findings, related discussions and recommendations.

5.2 Summary of Findings

The research study sought to evaluate the power procurement process had on completion of housing construction projects in Nakuru County, Kenya. This entailed an analysis of operations in order to determine the efficacy in the procurement progression in the County.

The researcher gave out 222 questionnaires to respondents. The researcher collected 160 questionnaires from the respondents. This represented 72.07% of all the questionnaires given. The first question asked respondents to indicate their gender. The responses showed that majority (75.0%) were male and 25% were female. The findings showed that 50% of the respondents were of age between 45-55, 21.25% of age between 26-35, 18% between 36-45, 06.25% between the age of 56 and above and lastly 3.75% between 19-25. From the table, 86(53.75%) have worked between 5-9 years, 38(23.75%) have worked for 10-14 years and 18(11.25%) had worked for 0-4 18 9(11.25%) above 15 years. the study findings revealed that half of the respondents that is 50.00 percent of the respondents had attained a diploma. 35.00% had first degree, 10.00% had a certificate, and only 0.5.00% had master's degree.

From the study, 80(50.00%) of the respondents strongly agreed that selection process of tenders affected completion of construction projects, 54(33.75%) agreed, 26(16.25%) strongly disagreed. 80(50.00%) of the respondents agreed that tender documentation affected completion of construction projects, 108(67.50%) of the respondents agreed that call for tenders 70 affected construction projects. It was also shown that 108(67.50%) of the respondents agreed that response to tenders affected completion construction projects. The study also found out that 118(73.75%) agreed that attending tender meetings influenced completion of construction projects. From the responses, 30.00% of the respondents disagreed that amendment to tender influenced completion of projects, 28.75% agrees, 27.50% were not sure, 12.50% strongly agreed and 1.25% strongly disagreed. 33.75% of the respondents also disagreed that submission and closing of tenders affected completion of projects. However, 53.75% of the respondents strongly agreed that tender selection and award affected completion of construction projects and 43.75% agreed to that.

The study sought to establish the influence of client selection criteria on completion of construction projects. The respondents were asked to respond to some indicators. The results showed that 86(53.75%) respondents agreed that cost related factors influenced completion of construction projects while 74(46.25%) strongly agreed. 108(67.5%) respondents agreed that time related factors influenced completion of construction projects. 82(51.25%) agreed and 52(32.5%) strongly agreed that quality related factors influenced completion of construction projects. Results showed that 90(56.25%) respondents agreed with the notion that Project characteristics and General needs influenced completion of construction projects.

Lastly, 112(70.00%) respondents agreed that the external environment influenced completion of construction projects and 26(16.25%) strongly agreed. Rating of influence of

client selection criteria on completion of construction Projects by respondents on adoption of procurement route, quality of projects, clients creativity and number of projects completed indicated the mean value of 2.185 on average from the likert scale range of (1-5) indicating that the respondents' rating agreed that client selection criteria had significant influence on completion of construction Projects in Nakuru County. The standard deviation calculated (Std Dev = 1.35) was outside one deviation from mean thus showed that we can't be 99% confident that all respondents were consistent in their responses.

The study sought to establish the influence Control regulations in procurement on completion of construction projects. All (100%) the respondents agrees that they understood the public procurement law and that it was useful to their Companies. They cited among others that the procurement law seals loopholes in the procurement of goods/services, it ensures that good quality products are produced at the right time, it regulates the procurement procedures, offers advice to committee, enables good execution of work and build efficiency and boost public confidence in the procurement process. It was also established that summaries of information about public procurement was available to 66.25% of the respondents (e.g. number of bids received, number of contracts awarded, and names of successful bidders). 33.75% of the respondents don't access this information. Those who access the information get it on quarterly, monthly or yearly basis. Some get it whenever there is a tender or quotation opening. According to 66.67% of the respondents these information are published yearly.

When asked about the types of goods or services they use procurement for, 66.67% of the respondents said that they use it for Machinery, 33.33% for Stationary and consumables. 50% of the respondents said that they use low value tendering method and the other 50% used request for quotation for the procuring of items specified. Others methods

used are open tender and restricted tendering. Different tendering methods have been used in construction projects for inviting tenders.

The study established that 83.75% of the respondents face challenges in the procurement of goods. The kind of challenges faced while procuring include insufficient funds to procure the goods/services, substandard items that compromise quality, suppliers not supplying on time and influence from the political divide. 50% of the respondents indicated that they were being resolved, 16.67% said that they have not been resolved while 33.33% indicated that they were in the process of resolving. Methods for resolving include planning for payment, teaching the members the importance of adhering to rules and regulations of procurement and training on how to come up with product/service specifications

The study found out that it takes mainly one week to prepare for bid (50% of the respondents).33.33% indicated that it takes 1-2 months while 16.67% said it took 3-4 months.

Likewise the researcher found out that 66.67% indicated that it takes one week for them to respond to contract advertisement .16.67% said that they take 2 week and another 16.67% take one month. It was also established that 50% of the respondents indicated that the contracting authority took one week to evaluate and respond to tender documents that they submit. The other 50% of the respondents indicated that the authority took one month. From the study, 66.67% of the respondents disagreed that Procurement Act causes delays in awarding contracts while 33.33% of them agreed. All (100%) acknowledged that delay in payment affected the management of the respondents' companies. They further explained that it affected because of lack of funds that hampers service delivery. It was also noted that client and suppliers loose trust and confidence in them and the companies because their money is locked up. Also delays attract penalty. Lastly, when the researcher questioned if

there was unnecessary levels of approvals or cumbersome procedures for procurement, 83.75% of the respondents agreed. From those who agreed, 60% said it was much and 40% said it was little.

The study sought to assess the risk associated with completion of construction projects and the researcher rated the respondents. 138(86.25%) agreed that the project non completion of projects affected the viability of the project and 56 (35%) respondents agreed that the budget will thus be exceeded, 108(67.50%) agreed with the fact that project will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval thus affecting the completion of the projects, 80(50%) agreed that the project will be sensitive to the application of new technologies, though 134(83.75%) disagreed that facility will not be operating within the design specifications.

As such All (100%) the respondents agreed that clients had well enunciated and effectively communicated goals, 138(86.25%) agreed that clients build a strong, imaginative and effective design team which seeks and positively responds to build ability advice, 80(50%) respondents agreed that clients ensured that risk is appropriately distributed to those who can best control that risk, 108 (67.50%) respondents agreed that clients took responsibility, when required, for providing timely, clear and responsible decisions. 110(68.75%) respondents agreed clients engendered an atmosphere where cooperative problem solving within the team could be achieved and 70% strongly agreed and agreed that clients ensured proper accountability of team members and maintained it without introducing or maintaining a legalistic mind-set of team members.

Further, the study sought to find out the Quality of service on part of procurement entity. All (100%) agreed that they had. When asked if the entity ensured that the Contractor and Contractor's agents and representatives visited, inspected and were familiar with the Sites, their physical conditions, roads, access rights, utilities, topographical

conditions and air quality conditions, 83.33% of the respondents agreed. It was also established 75% of the respondents did not have a Quality Control/Quality Assurance desk. To ensure quality service in the industry, the companies benchmark with other contractors, acquire the right materials at the right time and get the lowest bid for high materials/services. They also do so by inspection before acceptance. It was established that 138(86.25%) of the respondents had not embraced e-procurement in their companies. For those who had embraced it, the procurement process as a whole has improved. For instance the suppliers are paid through Integrated Financial Management Information System (IFMIS) and customer service has improved.

The researcher interviewed procurement department staff of Nakuru County assembly, Directors of the construction Companies and Ministry of works officers. The interviewees noted that clients don't get satisfied with the way projects are implemented. They also noted that the projects take longer time than the estimated time to get completed and that there are many variations to the project contract leading to high cost of the project. The study also found out that there is social and environmental impact, personal development and professional learning through the use of procurement process in place. Here, the procurement team learns new trends and updated procurement regulations. It was also cited that once projects are completed, they provide essential amenities to the society. The interviewees considered their project teams to be confident. They positively viewed the procurement and tendering methods and selection criteria used. Open tendering was commonly used and the lowest bidder was always selected. There was also some economic impact of projects undertaken to the surrounding communities by the companies that were interviewed. These included improved trade, time saving and employment to workers.

5.3 Conclusions

Tendering process influence completion of construction Projects. This includes tender selection, tender documentation, and call for tenders, and response to tenders, attending tender meetings and tender selection and award. Though, it was established by respondents that amendment to tender and submission and closing of tenders did not affect completion of projects.

Client selection factors for example cost related factors, Projects, time related factors, quality related factors ,Project characteristics and General and external environment influenced completion of project Control regulations in procurement influence completion of construction projects. The procurement law seals loopholes in the procurement of goods/services, it ensures that good quality products are produced at the right time, it regulates the procurement procedures, offers advice to committee, enables good execution of work and build efficiency and boost public confidence in the procurement process. Quality assurance influences completion of construction projects. Non completion of projects affected the viability of the project such as budget could be exceeded, project will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval thus affecting the completion of the projects, be sensitive to the application of new technologies, though facility will be operating within the design specifications. As such, clients need to have well enunciated and effectively communicated goals, build a strong, imaginative and effective design team which seeks and positively responds to build ability advice, ensure that risk is appropriately distributed to those who can best control that risk, clients to take responsibility, when required, for providing timely, clear and responsible decisions and engender an atmosphere where cooperative problem solving within the team could be achieved clients to ensure proper accountability of team members and maintained it without introducing or maintaining a legalistic mind-set of team members.

5.4 Recommendation of the Study

It was recommended that all stakeholders to ensure that there is quality assurance in the procurement process since on completion of projects affected the viability of the project resulting in budget exceeding, project being sensitive to environmental and / or heritage issues and/ or environmental conditions and approval thus affecting the completion of the projects, being sensitive to the application of new technologies, though facility will be operating within the design specifications. As such, clients need to have well enunciated and effectively communicated goals, build a strong, imaginative and effective design team which seeks and positively responds to build ability advice, ensure that risk is appropriately distributed to those

who can best control that risk, clients to take responsibility, when required, for providing timely, clear and responsible decisions and engender an atmosphere where cooperative problem solving within the team could be achieved clients to ensure proper accountability of team members and maintained it without introducing or maintaining a legalistic mind-set of team members.

It was also recommended that the Government of Kenya put in place procurement policies that ensure that clients get satisfied with the way projects are implemented and that projects take the scheduled time to get completed since it was noted that there are many variations to the project contract leading to high cost of the project. It was also recommended that the Government should ensure that e-procurement is embraced in its ministries and public sector to ensure open and fair procurement process.

5.5 Suggestions for Further Research

The following observations were noted for further research;

From the recommendations, regarding, the first objective of the survey on the extent user specification influence housing construction project. The study recommends that; a longitudinal research be carried to establish the real performance on projects.

In line with the second objective on the extent tender process influence housing construction project performance: Conducting an evaluative study for the whole procurement process which has been worked since 2016.

This study was only carried out in one county. It is, therefore, important that other studies be conducted in other counties to cover both public as well as private sectors to find out the relationship between the prevalence of procurement on the performance of housing projects.

Further, other studies should be made to conduct an evaluative study for the whole procurement process.

A study is suggested on influence of amendment to tender on completion of projects to be conducted. Further, a longitudinal study is suggested on influence of submission and closing of tenders on completion of construction projects.

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APPENDICES

Appendix I: Letter of transmittal of data collection instruments

Date

To the Director,

.....

P.O Box

Nakuru

Dear Sir/ Madam,

REF: REQUEST FOR DATA COLLECTION

Above refer.

I am undertaking a research at the University of Nairobi. The research topic is: The influence of procurement process on performance of projects in Nakuru County. I would wish to collect data in your organization. With me is an interview guide and questionnaire designed for you, Directors and employees to fill.

Kindly assist me on the same and I assure you that the information collected will only be used for academic purposes. Thank you so much for your assistance.

Yours Sincerely

Dorine.....

University of Nairobi

Appendix II: Questionnaire for procurement officers at the County offices

Dear respondent,

The researcher is Master of Art (Project planning and Management) student at the University of Nairobi carrying out a study, on the influence of procurement process on performance of projects in Nakuru County, Kenya. You have been selected to participate in this study. The information you provide will be treated with confidentiality and entirely used for the purpose of this study.

Section A: Background information

Instruction; please circle the appropriate choice or write in the space provided

1. Gender: (a) Male (b) Female
2. Age; (a). [19-25] (b). [26-35] (c). [36-45] (d). [46-55] (e). 56 years and above.
3. Working experience in current position.....years
4. Qualification (tick where necessary) (i) Certificate ii) Diploma.... (iii) Degree holder... (iv)

Masters

Section B

To what extent does tender process influence project performance in Nakuru County?

Part 1: Influence of Tendering process on performance of Projects

In each case, Give if you strongly agree, Agree, Not sure, Disagree or strongly disagree that the following tendering processes influence completion of road construction Projects

Tendering process	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Selection process of tenders					
Tender documentation					
Call for tenders					
Responding to tenders					
Tender meetings					
Amendment to tender					
Submission and closing of Tenders					
Tender selection and award.					

Part 2: Influence of Client Selection Criteria on performance of Projects

Client Procurement Selection Criteria	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
-Adoption of procurement route					
Quality of Projects					
Clients Creativity					
-No of projects completed					

In each case, Give if you strongly agree, Agree, Not sure, disagree or Strongly disagree that the following client Selection Criteria influence performance of Projects

Part 3: Extent user specification influence project performance

1. Do you understand the public procurement law? Yes No
2. Is the procurement law useful to your institution? Yes No
3. How useful is it to you?

User specification influence on project performance	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Cost related Factors					
Time related Factors					
Quality related factors					
Project characteristics General needs					
External Environment					
No of projects completed					

4. Are summaries of information about public procurement available to you? (E.g. number of bids received, number of contracts awarded, and names of successful bidders)

Yes No

5. Please explain If yes, how often? _____

6. How are they published?

Quarterly Every six months Yearly Uncertainty

7. What types of goods or services do you use procurement for?

Machinery Stationary All Others (please specify) _____

8. What type of tendering methods is used for the procuring of items specified? National competitive tendering Minor Procurement Low value Single source Request for Quotation

Others (please specify) _____

9. Do you face challenges in the procurement of goods? Yes No

10. What kind of challenges do you face while procuring?

11. What is/are the reason(s) for the challenge(s) you face as a company?

12. Were they resolved or are they in the process of being resolved? Yes No

13. How were they resolved?

14. How long does it take you to prepare for bid?

One week between one and two months between three and four months

Five months and above

15. How long does it take you to respond to contract advertisement? One week Two weeks Three weeks One month

16. How long does it take contracting authority to evaluate and respond to tender documents that you submit? One week One month Two months Three months

17. Do you agree that Procurement Act causes delays in awarding contracts? Strongly agree Agree Disagree strongly disagree Uncertain

18. What are some of the causes of the delay in paying contractors?

19. a) Does the delay in payment affect the management of your company in any way? []

Yes

[] No b) If yes, why?

20. Are there unnecessary levels of approvals or cumbersome procedures for procurement?

[] Yes [] No

If yes

(a.) Too much (b.) much (c.) little (d.) not at all

Part 4: Supplier evaluation influence on project performance

a) Assessing the risk

If projects are not completed on time;

1 Do you think non completion of projects will affect the viability of the projects?

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

2. Do you think project budget will be exceeded? (i) Strongly agree (ii) Agree (iii) Not sure

(iv) Disagree (v) Strongly disagree.

3. Do you think projects will be sensitive to environmental and / or heritage issues and/ or environmental conditions and approval? (i) Strongly agree (ii) Agree (iii) Not sure (iv)

Disagree (v) Strongly disagree.

4. Do you think project will be sensitive to the application of new technologies? (i)

Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

5 (a). Do you think the facility will not operate within the design specifications? (i)

Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

(b) As such; (i) Clients have clear well enunciated and effectively communicated goals

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

(ii) Clients build a strong, imaginative and effective design team which seeks and positively responds to build ability advice; (i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v)

Strongly disagree.

(iii) Clients ensure that risk is appropriately distributed to those who can best control that risk.

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

(iv) Clients take responsibility, when required, for providing timely, clear and responsible decisions;

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

(v) Clients engender an atmosphere where cooperative problem solving within the team can be

achieved;

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree.

(vi) Clients ensure that proper accountability of team members is maintained without introducing or maintaining a legalistic mind-set of team members.

(i) Strongly agree (ii) Agree (iii) Not sure (iv) Disagree (v) Strongly disagree

b) Quality of service on part of procurement entity

1. Do you have a procurement entity in your institution? [] Yes [] NO

2. Does this entity ensure that the Contractor and Contractor's agents and representatives have visited, inspected and are familiar with the Site, its physical condition, roads, access rights, utilities, topographical conditions and air quality conditions?[] Yes [] NO

3. a) Do you have a Quality Control/Quality Assurance desk? [] Yes [] NO

.b) How do you ensure quality service in the institution?

4. a)Have you embraced e-procurement in your institution? [] Yes [] NO

b) If Yes, What impact has it had on your procurement process as a whole?

Appendix III: Interview schedule for procurement and development committee

Assembly, office Directors of Ministries

Influence of contract execution on project performance

1. Does the clients get satisfied with the way projects are implemented?
2. Do the projects take the required time to complete, within budget and are they of the quality expected?
3. Is there any social and environmental impact, personal development and professional learning through the use of procurement process in place?
4. Do you have a confident project team? How do they view the procurement and tendering methods and procurement selection criteria used?
5. Are there any economic impact of projects undertaken by your company to the surrounding community? Explain.