

**INFLUENCE OF PROCUREMENT PROCESS ON COMPLETION
OF ROAD CONSTRUCTION PROJECTS IN KENYA: A CASE OF
BUNGOMA SOUTH SUB-COUNTY**

BY

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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 work is dedicated to my beloved husband Isiye Clement and all our children for the assistance and encouragement that they gave me during my study and process of writing this research project.

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ABBREVIATIONS AND ACRONYMS

CM- Construction manager

GNP-Gross Domestic Product

BCA-Bungoma County Assembly

TP –Tendering process

BSSC-Bungoma South-Sub County

RCP- Road Construction Projects

PCR-Procurement Control Regulations

CSC-Client Selection Criteria

PPOA-Public Procurement Oversight Authority

QASP-Quality Assurance Standards in Procurement

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ABSTRACT

Construction is one of the largest industries and contributes to about 10% of the gross national product (GNP) in industrialized countries (Navon, 2005). Construction industry has complexity in its nature because it contains large number of parties as clients, contractors, consultants, stakeholders, shareholders and regulators. This research report evaluated the influence of procurement process on completion of construction of road projects in Bungoma south sub-County. This research focused on road construction Companies within Bungoma south sub county and the procurement department within Bungoma County Assembly as the procuring entity. The objectives that guided this study were: To determine the extent to which tendering process, client selection criteria used, control regulations in procurement and quality assurance influence on completion of road projects in Bungoma south sub county. . Literature review was done based on the themes of the study. The study was 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' 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. The study adopted a descriptive survey design. 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 instrument of data collection was the questionnaire and interview schedule. 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. Purposive sampling ensured that all the construction managers, all the county assembly committee members and all ministry of works officials provided information concerning the subject of study. Systematic random sampling was used to select 86 construction workers from the 25 construction companies whereby every 3rd worker was systematically selected from a list comprising all employees in all the companies 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 recommended that all stake holders to ensure that there is quality assurance in the tendering process to ensure validity of the completed road projects.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Construction industry plays a major role in development and achievement of the goals of society. Construction is one of the largest industries and contributes to about 10% of the gross national product (GNP) in industrialized countries (Navon, 2005). Construction industry has complexity in its nature because it contains large number of parties as clients, contractors, consultants, stakeholders, shareholders and regulators. The performance of the construction industry is affected by national economies (Navon, 2005).

The doctrine of time is money appears to be well entrenched in the psyche of almost all construction industry clients. To satisfy the requirement of time (completion on time or earlier) a plethora of non-traditional procurement methods have emerged in the marketplace, which has resulted in design and construction schedules being compressed and construction commencing before the final design is complete (Hanna et al. 1999). As design and construction time is compressed, the degree of overlap, which will be referred to as concurrency between activities increases, which in turn increases project complexity as activities are subdivided into trade packages. Hoedemaker et al. (1999) suggest that there is a limit to the number of tasks that can be undertaken in a concurrent manner. Beyond this specified limit, the probability of rework occurring as well as time and cost overruns being experienced significantly increases. Primarily this is due to the complexities associated with communication and coordination of a large number of tasks undertaken in a concurrent manner (Love et al., 2000a).

The procurement of construction project is vast in scope because it involves the gathering and organizing of myriads of separate individuals, firms and companies to design manage and build construction products such as houses, office buildings, shopping complex, roads, bridges etc. for specific clients or customers. Procurement comes the word procure which literally means to obtain by care or effort; to bring about and to acquire (Rosli; Ismail; Wan.; Md; Wan &

Zainab,2006). System is about “organized method, approach, technique, process or procedure”. 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. It also involves arranging and coordinating people to achieve prescribed goals or objectives. The Aqua Group (1999) described procurement as the process of obtaining or acquiring goods and services from another for some consideration. Masterman (1996) described project procurement as the organizational structure needed to design and build construction projects for a specific client. 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 term of their roles, duties, responsibilities and interrelationship between them.

A successful project should be measured in terms of cost, health and safety, quality and schedule performance (Hinze, 1997). It is unacceptable to have a project completed on time and within budget but with a fatality record. Levitte and Samelson(1993) reinforced Hinze's (1997) contention with: "Quality includes health, safety and productivity." Rodrigue and Jaselskis (1996) concluded that from their research with construction projects in the USA, it was found that "... projects that were consistently behind schedule and over budget experienced a greater occurrence of recordable accidents". There are also numerous advantages of investing in health and safety. Tang et. al. (1997) maintained that investing in health and safety will result in an increase in health and safety performance. Bentil (1992) cited the findings by Du Pont Safety Services which concluded that construction firms that make health and safety a priority can reduce lost workday accidents by an average of 37% in the first year, and 10-20% each subsequent year.

Rosli; Ismail; Wan; Md; Wan & Zainordin (2006) further maintained that Cost, time and quality are the three most important parameters of project performance. It was stressed that in today's highly competitive and uncertain business environment, clients are demanding for better value from their investment. They want their project to be completed on time, within the estimated cost and with the right quality. The use of the various project procurement systems shows that the construction industry is now trying to meet the clients' needs. This is because the different

procurement method will have different effect on the cost, time and quality of the project. Each project procurement system has its own peculiarity in term of the pre-tender and post tender activities and processes, division of risks between client and contractors, and the effectiveness of project monitoring and control (Rosli; Ismail; Wan; Md; Wan &, Zainordin 2006)

Rosli; Ismail; Wan; Md; Wan & Zainordin (2006) further concluded that it is very important at the very outset of the project to carefully consider all factors when selecting the most appropriate procurement approach for a construction project. This is because each system has its own feature and peculiarity that will have effect on the cost, time and quality of the project i.e. the project performance.

In Palestine, efficient construction projects especially roads can provide a solid platform for reviving the Palestinian economy and for building a more balance and independent economy during stable political conditions. In 1993, neglect of such systems, services, and institutions, however, has harmed the quality of life of Palestinians and their health and environment. However, project performance in Palestine has suffered since conflict erupted in September 2000 after the breakdown in Israel-Palestinian negotiation on permanent-status issues. This has led to closures and tight restrictions on movement of people and goods in West Bank and Gaza resulting in a dramatic decline in trade, investment, and employment. In addition this has prevented the planned implementation and has caused problems in performance of projects (World Bank, 2004).

Though, work on providing construction services in West Bank and Gaza (WB&G) has made considerable progress since the Palestinian Authority assumed responsibility for them, but the Palestinian have had to build from a low base, including a huge backlog of rehabilitation and development work, few institutions, and very little funding. So, they have had to work in every difficult physical, social, political, economic and institutional circumstance. For a number of reasons, the performance of construction projects has not been as impressive, fundamentally because of the PA's failure to establish a coherent institutional and policy framework. (World Bank, 2004).

In Nigeria, 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 also influence project performance. There are few studies in Nigeria that have investigated the effects of procurement methods on project performance. Worthy of note in the use of these different procurement methods in Nigeria is that they offer different procurement factors in respect of their selection criteria, tendering methods, variation order, contract system, inherent risks and management of relationships between parties on a project that can affect project performance (Ogunsanmi, 2013).

In Kenya, Individuals, private firms or public entities are continually engaging in acquisition of physical assets in various forms such as, residential, commercial buildings, hospital, schools/institutions, development infrastructure like water, roads, electricity and telecommunication. These assets represent major capital investment motivated by market demands or perceived needs (Hendrickson and Au, 1999).

To remain competitive in profit or non-profit engagements, these entities focus on processes and procedures that offer value and competitive advantage. Understanding the customer needs and appropriately deploying the available resources in meeting customer expectations offer competitive edge over competitors in product and service provision. Thus, efficient and effective resource management through appropriate use of tools and techniques in asset acquisition is critical. Customers are demanding for better quality product through efficient and timely deliveries at low price. It is therefore important, that time, cost, and quality of constructed facilities are efficiently managed in the entire project life cycle for effective service or product delivery (Kagiri and Wainaina, 2010).

In Kenya, despite efforts by the government to improve road projects delivery, 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 the construction sector. Construction of roads and housing has been witnessed in all corners of the country. The construction sector has shown average GDP growth rate of over 10 percent in this period. For instance, in 2012, cement consumption grew by 1.7 percent; loans from commercial banks to the construction sector grew by 4 percent, this growth has been taking place despite chronic delays in project completion. 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 completion therefore have tended to pull down the 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. Roads contribute to economic growth and poverty reduction as they facilitate efficient movement of goods and services (Seboru, 2006). 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

However, in Kenya, public sector projects are identified, planned, and implemented by the government ministries or their implementing agencies in state corporations. The aims of these projects are to improve the country's infrastructure like health, communication networks, housing, energy, and water. Hence, expeditious implementation to realize the desired benefits to their end users is important. However, it is a well-known fact that time and cost overruns are widely prevalent in the public sector projects (Mwandali 1996, Talukhaba 1988, Karimi 1998, and Musa 1999). Their findings showed that, poor communication, lack of experience by project manager, procurement delays, lack of planning, poor infrastructure, inadequate resources, lack of motivation, tendering methods, variations, project environment, poor project definition as being some of the major contributors to time and cost overruns.

1.2 Statement of the Problem

The construction industry is a crucial sector for the growth of any economy. It is the sector involved with erection, repair and demolition of buildings and Civil Engineering structures in an

economy (Hillebrandt, 2000). Kenya National Bureau of statistics (KNBS; 2012) records that the construction industry contributed 3.8%, 4.1 %, 4.3% and 4.1 % towards Gross Domestic Product (GDP) for the years 2008, 2009, 2010 and 2011 respectively. According to Hillebrandt (2000), this is an average of 4.1 % as compared to 10% for the developed economies.

In Bungoma South Sub County, Construction business is conducted through contractual arrangements that at times results in disputes. Claims and disputes have been steadily on the rise. The industry is coming under greater regulation through the construction codes and licensing requirements. Permitting requirements, contractor licensing laws, and the associated cost are escalating. Quality of code administration is a concern as are the delays caused by waiting for inspection. Public works projects that receive State funds are subjected to greater process and administrative regulation. Timely resolution of issues is often influenced by bureaucracy, (Ministry of Works, 2015)

The success of a project is judged by meeting the criteria of cost, time, safety, resource allocation, and quality as determined by the owner. The purpose of Project Management is to achieve goals and objectives through the planned expenditure of resources that meet the project's quality, cost, time, scope, and safety requirements. (Hersey,P,Banchard K 1982) The CM must control, deflect, or mitigate the effects of any occurrence or situation that could affect project success.

1.3 Purpose of the Study

The purpose of this study was to evaluate the influence of procurement process on successful completion of construction projects in Bungoma South Sub County.

1.4 Objectives of the study

The study was guided by the following specific objectives:

- 1.To determine the extent to which tendering process influence completion of roads construction projects in Bungoma South Sub-County.
2. To establish how client selection criteria influence completion of roads construction projects in Bungoma South Sub County.

3. To establish the extent to which procurement control regulations influence completion of roads projects in Bungoma South Sub County.

4. To determine the influence of procurement quality assurance process on completion of roads projects in Bungoma South Sub County.

1.5 Research questions

The study sought to answer the following questions:

1. To what extent does tendering processes influence completion of roads construction projects in Bungoma South Sub County?

2. How do client selection criteria influence completion of roads construction projects in Bungoma South Sub County?

3. To what extent does procurement control regulations influence completion of roads projects in Bungoma South Sub County?

4. How do procurement quality assurance process influence completion of roads projects in Bungoma South Sub County?

1.6 Significance of the study

Road construction industry already is seen as struggling to enhance its productivity in the face of fierce global competition and technological breakthrough. The results of this study will assist in promoting the consideration of other building procurement processes and systems besides the traditional systems in the attainment of goals. The results will further assist those engaged in construction management projects to be knowledgeable about best practices in construction management in order to achieve project success.

1.7 Limitations of the study

The sample used in this study posed a limitation in the ability to generalize the findings of this study to all road construction companies although the initial intentions were to make generalizations. Different work settings and differences in how companies are managed in Kenya and the differences in the geographical regions further limited the ability to generalize the findings of this study to the larger populations of companies.

1.8 Delimitation of the study

Scope of the study was delimited geographically to road construction companies in Bungoma south sub county. The study targeted road construction company managers, workers, county assembly procurement team and Ministry of works officers. Content of this study was limited to the use of procurement process in construction companies. Time of this study was limited to four months.

1.9 Assumptions of the Study

The study was based on the following assumptions: that the respondents were available to give required information without fear. The findings of the study was generalized for all the road construction companies in Kenya, there was transparency and accountability to the information given by the respondents and the information was treated with confidentiality by other agencies that had access to this information.

1.10 Definition of Significant Terms

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.

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

Road Construction Industry – A construction industry charged construction, maintenance and repairs of roads.

Completion of projects - Date set for end of projects where customer satisfaction is evident. 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 reviews related literature to procurement processes and successful completion of projects. It includes tendering methods, client selection criteria, control regulations and quality assurance in relation to completion of road projects.

2.2 Tendering process and completion of road projects.

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 Fagbenle (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'Donnel (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 and 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 also 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), Manthosi 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.

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 sub-divided 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 basis of construction programmes, 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-Hejji, 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 can 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.

2.3 Client selection criteria and completion of road projects

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) re-emphasized the use of the three factors together but expansively considers client requirements to include cost related factors, time related factors and quality related factors.

According to Ogunsanmi (2013), several variables of client requirements were measured under cost, time and quality related factors. Project characteristics factors also include project type, size, cost, flexibility, complexity, site risk factors and degree of innovative technology. External environment factors considered are market competitiveness, availability of materials, natural disasters, industrial actions amongst other variables. Client characteristics, project requirements and external factors are considered with general needs for investigating the procurement related factors that affect project performance in this study. 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. 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.

Ogunsanmi (2013) continues to explain that quality related factors of design reliability, aesthetic appearance of the building, workmanship amongst other variables are considered are to be considered . 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. Moreover, 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.

In the study *Effects of Procurement Related Factors on Construction Project Performance in Nigeria*, by Ogunsanmi (2013), six procurement selection criteria showed some effects on project performance :cost related factors ranked first (MIS = 0.89), time related factors ranked second (MIS = 0.85), quality related factors ranked third (MIS = 0.77) while project characteristics ranked sixth MIS= 0.71). These results also reveal that cost related factors has the highest impact on project performance while time and quality related factors show some level of impacts on project performance. General needs, external environment and project characteristics do not

show too serious impacts on project performance. Emphasis is still on cost, time and quality effects for selecting procurement method.

Results also showed that cost, time, quality project characteristics and external environment procurement selection factors have their calculated chi-square values ($\chi^2_{cal} = 31.83, 16.61, 20.45, 20.13, 9.39$) higher than the tabulated values ($\chi^2_{tab} = 9.34, 11.14$) hence the results are significant. This implies accepting the alternative hypothesis. This indicates that cost, time, quality, project characteristics and external environment have effects on project performance. Similarly, general needs has its calculated chi-square value ($\chi^2_{cal} = 1.38$) lower than the tabulated value ($\chi^2_{tab} = 5.98$) hence the results is not significant. This also implies accepting the null hypothesis. This infers that general needs have no effect of project performance. These results agreed with the descriptive results generally it was inferred that cost, time, quality, project characteristics and external environment selective criteria impact on project performance.

2.4 Procurement control regulations and completion of projects.

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).

The Public Procurement Authority (PPOA) in its effort to make public procurement transparent, efficient, and fair, established five basic pillars of the public procurement (Kumaraswamy, 2006). 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 PPA 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. In

each entity, one would find a tender committee that is in charge of providing a one-stop shop for concurrent approvals, awards and management of contracts.

The procurement procedures and documentation stipulates that procedures must be followed for the sizing of tender packages, soliciting and evaluation of tenders and for the award of contracts. This procedure states that all contracts must be tendered on an open competitive basis, meaning that all contracts must be out there for every business entity to take advantage of unless otherwise stated in the Act. The Public Procurement Authority is a corporate body created under the Act 663, 2003 to make the processes of public procurement in the public service secure a judicious, economic and efficient use of state resources. It also guarantees that procurement activities are carried out fairly, and in a transparent and non-discriminatory manner (Public Procurement Act, 2003).

Competitive Tendering involves the use of standard tender documents to draft tender documents inviting potential suppliers, contractors or consultants to tender for public procurement opportunities. When opportunities come up, they are advertised and opened to all potential tenderers. Restricted Tendering is a procurement method that is limited to only short-listed contractors or suppliers. This method stipulates that parties involved must go through a formal procedure with detailed invitation to tender documents. Tender documents are available to short-listed suppliers with minimum of three and maximum of six suppliers and it requires specific approval from Public Procurement Board (PPB). With this method, awards should be published in the Procurement bulletin. Restricted tendering under the Act can only be used if it provides greater economic efficiency and is subject to approval by the Board (Gnanih, 2012).

Single Source Procurement is a method that involves procurement from a supplier without any competition. It is used for procurement of sole or single sourced requirements. This method is only used when the work, good or service to be procured is deemed very urgent or can only be provided by a single source (Gnanih, 2012). Request for Quotations is a method used where the items to be bought are readily available for technical services that are not specially produced or provided to a particular specification of the procurement entity. Under this system each supplier is required to give only one price quotation. No negotiation is allowed to take place between

procurement entity and supplier prior to the evaluation of the quotation. This method is mostly used by schools although it does not always apply because the threshold for this method is between GH¢ 5,000 and 20,000.

According to Gnanih (2012), under these pillars, the public procurement board's duty is to provide policy and regulatory oversight, provide training and capacity building for procurement officials, hear appeals and complaints, and assist local industries to become competitive and efficient suppliers to the public sector. Basically these pillars say that the board must make sure that information is given out to the civil society and business entities so as to enable a competitive environment to improve the economy. In doing this, it means that a database of all suppliers, contractors and consultants will be kept. This means that the board of directors have nothing to do with procurement practice under the Public Procurement Authority (PPA).

In Ghana, procurement is still undervalued compared to the other key areas of Public Sector Reforms (Verhage et al, 2002). Verhage et al (2002) looked at the health reforms in Ghana and procurements role, and also discussed the interventions made and their impact. (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. Bangladesh and the Philippines made use of institutional, technical and legal ways to prevent corruption in public procurement. Odhiambo et al (2003) looked at the reforms of three East African countries, namely Kenya, Uganda and Tanzania. The paper compared their reforms and identified a common ground. These were that the three countries identified the importance of the procurement law, thus they decentralized their procurement activities, and they have put in place regulatory organs to oversee public procurement activities. The study looked at how bribery and corruption affect the procurement law negatively, and how it affects the smooth running of organizations; it considered the challenges that organizations faced and the reasons why the procurement law was not considered total efficient and effective to them; finally it looked at the procurement law's positive impact (Gnanih, 2012).

In a study by Gnanih (2012) that sought to investigate the effect of the public procurement law on the Ghanaian educational sector, the objective of this study was to find out the effect of the current procurement law on the educational sector and to suggest ways by which the procurement law could be more useful to the sector. The literature review in the previous chapter represented studies that have been done by other people. Explanatory research was used for this study. Qualitative and quantitative analysis was used for this study. Both primary and secondary sources of data were obtained for the study. The target population for the study was made up of 20 procurement staff from the public procurement authority and the schools procurement unit, 10 head of schools, 10 bursars, and 50 teachers. The study's data was collected using two data collection instruments, namely, questionnaires and interviews.

The findings showed that The Procurement Act, 2003 has been put in place to bring about efficiency, effectiveness and accountability. The study 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. It was seen that The Procurement Act has created order in the procurement process of schools, because they knew what to do and who it should go to, it has also brought about transparency in the use of state resources. However, the study also brought out challenges. The main challenges, that this study revealed, where, bureaucracy in the system preventing good management of the schools, unskilled professional procurement officers, and delay in funds. Thus, one can say that the procurement law is having both a good and a bad effect on the educational sector of Ghana. It has created order in the system but changes are still needed to make the system fully effective, efficient and transparent.

2.5 Procurement quality assurance and completion of projects

This themes looks at the measurement and standards of procurement in terms of client sophistication and the quality of service on the part of the procurement entity.

2.5.1 Client sophistication

Clients are the key player in the procurement process as initiators, financiers and end users of the construction products (Latham, 1994). In many countries, particularly developing countries, such as Malaysia, government is a client who predominates in the construction industry. However, at present, private sector has also been regarded as potential client of the industry as private sector

may not only consist of single agents but many. It is, therefore, more parties have been involved in the building procurements and with different methods they use. It impacts on changing contract terms, the need for speed of delivery, and complex arrangement, including competitive tendering, and contractual systems. However, government as a major client can provide big effects on the construction industry both directly and indirectly, such as decisions by government that affect investment plans and incomes.

The client's needs are of paramount importance in the overall implementation of a project.

The philosophies adopted by major clients to implement their projects need also to be considered because they are likely to affect substantially, the project culture and the way in managing the projects. The government as a major client in any economy remains an important factor to create positive changes in the construction industry. Its construction procurement policies have considerable direct influence on local government as well as indirect effect on the private sector. Resulting from the Latham Report (1994), the government of United Kingdom, is in process of devising new strategy to ensure that government achieves world class standards in procurement activities. The essence of the strategy consists of the following key elements.

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 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).

The relevance of clear goal definition to management success has been identified by others (McGregor 1960, Hersey and Blanchard 1982). If the client has clear well enunciated goals

which are effectively communicated in the briefing and team selection process then a better climate exists for goal congruence and, as a consequence of this, there is a better chance of project success. The client needs a clear idea of key project team members' expectations and reputation to effectively build a project team that has a promising chance of successful goal congruence. Clients can perform a useful role in ensuring that the brief is properly and clearly given, that appropriate consultants are commissioned, and that an appropriate management structure for the management of the project and the construction process is established.

Sidwell's work (1982) demonstrates that sophisticated clients (those having built projects before) and specialized clients (repeated similar buildings) have a better chance of success with their projects than novices. More than 15 years ago Ferry (1978) observed that "the uninformed client has an unrealistic idea of what he is letting himself in for". The NEDO (1988) report's research findings has more recently demonstrated the key influence of the client on the outcome of building projects which is mirrored by the client's skill in: 'clearly expressing project objectives in terms of building requirements, cost and time budgets; defining the procurement strategy and the input that the client can make to the project; bringing together a - possibly unique - configuration of specialist to work as a team; and determining the level of service expected from each member of the project team. "

Sidwell (1982) observed that public clients (who may well, as an organisation, have much experience of commissioning buildings and may also have commissioned many similar buildings) can experience higher cost and time blow-outs as compared with privately funded clients. He explains this in part by drawing attention to bureaucratic procedures that publicly funded and some privately funded clients are subject to. Client organisations may be highly experienced, but individuals acting in the role of project sponsor/client may be inexperienced or overloaded with work. Sidwell (1982) remains convinced that clients should participate actively and supportively throughout the project life cycle to facilitate project success.

The characteristic of experience, therefore, may be personal and not organisational (though if an organisation has built up experience then that body of knowledge and expertise is available). As Sidwell (1984) observes "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." Bresnen et al. (1988) found no significant links between client experience, project type and typicality from a sample of 138 projects studied, though they state that client control and alternative contractual arrangements suggest an influence upon client satisfaction of project outcomes. They imply (though their evidence is not strong) that client sophistication, in terms of the capacity to be involved in the process, has an impact on project performance. Naoum (1991) presents evidence to suggest that experienced clients were more satisfied than others in respect to construction time (where experience was measured as the number of similar buildings they had commissioned in the past). Clients express their brief in a variety of ways ranging from highly developed requirements such as specific extension or expansion plans for manufacturing plants to vague impressions of shortcomings in an existing facility.

The NEDO (1988) report suggests that it is not essential that a brief 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. In a recent analysis of 20 major Australian projects (BCA, 1993a) the following conclusions were drawn which pertain to client generated delays. The report highlights: "a need for a greater assumption of the responsibility by the client for a firm brief; a realistic timing of commitment and a comprehensive analysis of project delivery need and method, and the creation of a climate in which the parties can operate efficiently and the supply of clear decision making": In another report (BCA, 1993b) further requirements for success are specified including the need for definition of project rules, detailed expression of client needs and ensuring accountability and responsibility by assigning sufficient power to individuals or units that have the capacity to bring needed results. The BCA (1993a, 1993b) and NEDO (1988) reports stress the importance of the client dealing with the design brief and design development in a unified and coherent manner. Confusion and delay were reported to have occurred in cases where diffused briefing from inside a client's organisation had occurred.

This may, in part, explain why publicly funded clients have attracted a poor reputation for their projects achieving good Construction Time Performance. More generally, if a disparate group controls the decision making process in any project, then a strong likelihood of confusion, decision reversal and untimely decision making may ensue with its attendant problems of generating temporary holds on construction work and contract variations which have been shown to inhibit good Construction Time Performance.

At this point it is worth drawing upon the NEDO (1988) study to illustrate examples of the actions taken by 'very professional' clients and their approach to the development of the brief, design and construction process. These customers were typically supermarket and chain store developers who had standard briefs which defined their requirements succinctly. Instructions included distribution of responsibilities between the project team members, lists of preferred suppliers and specialist contractors and even proposed design concepts and construction techniques. The brief also committed principal consultants to produce a plan of key decisions required of the customer and a timetable of decisions required of specialist consultants, subcontractors and suppliers as well as planning the design development phase to the extent of detailed design and shop drawing production. The NEDO (1988) report states: "In the study, this extent of initial effort was vindicated by the success of the projects and the confident spirit in which it was achieved. It demonstrated the usefulness of defining at the outset a comprehensive strategy for the project and a firm context for the responsibilities and contributions of participants."

A bewildering array of procurement systems exists to realize a project from inception to completion. Opinions vary as to the most effective procurement system available. Knowledge based expert systems (KBES) have been developed to assist in appropriate selection of a project delivery system including PASCON (Mohsini and Botros 1990) and ELSIE (Brandon, 1990) though as Brandon indicates, problems with this type of application include being subject to: fashion, personal expertise, prejudice, disagreement between experts, not being verifiable as optimal and based on a combination of possibilities. Increasing project complexity resulting from using complex technologies, management structures, team relationships and legal responsibilities require greater risk sharing. The traditional building contract was originally designed for straight

forward conventional projects where design was completed before construction commenced and where limited involvement of the builder in the design process was the norm.

In recent decades greater overlap of design and construction has emerged and with it alternative forms of contractual arrangements. It is not intended to detail all possible forms as this is not considered necessary in this paper. Clients require an appropriate form of project delivery system that allows for appropriate flexibility for all parties and that risk is distributed in a way that engenders a successful project outcome. Primarily this means that risk should be devolved to the point at which it can most effectively be controlled. Appropriate distribution of risk between parties that can best control that risk appears to be the best criteria for selection of a procurement system. Others have written widely on this topic. Barnett (1988) identifies four basic types of project manager and nine variations on that theme discussing their legal relationships with the client based on risk sharing ranging from adviser to entrepreneur project manager. Ireland (1987) has also developed a useful taxonomy of contractual forms illustrating the risk to be accepted by the contractor and client.

One of the alternative project delivery systems commonly used in the UK is Management Contracting which can be considered as the same as either direct construction management (CM) or Agency CM. The effectiveness and nature of Management Contracting has been widely researched (Sidwell, 1983; Elton, 1985; Franks, 1984 & Naoum and Langford 1984). The choice of any particular form of project delivery system will not automatically guarantee fast project completion. This paper is confined to CTP and not overall project completion from conception to completion. Ireland (1983) indicates that overlapped or fast-track construction can shorten the overall project delivery time but may increase the construction period. Others conclude that project delivery system is not a dependant factor in determining construction speed (Barnes and Partners 1984; Sidwell, 1984). 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). The challenge of the builder taking on a consulting role has been documented as being patchy in its success (Naoum and Langford 1987). The principal problem identified is a difficulty that some builders have in responding to the demands of being a constructive critic of the design concept and detail. This

difficulty should reduce over time as more builders operate within this function and more graduates of building undergraduate and postgraduate degrees enter senior positions in building firms engaged in this kind of work.

In recent Australian study (CIDA 1993) pre-construction activities involving the client accounted for 66% of perceived factors influencing construction performance. The client influence upon the choice of project delivery system can be crucial if it opens up greater possibilities for informed advice on the design to be adopted, construction methods to be proposed and organisational structures to be developed to manage the project. The rise of alternative modes of project delivery has highlighted short comings in the traditional approach and the client can, if aware of advantages and disadvantages

A client who is experienced and sophisticated (in terms of project management) may choose to take the initiative and lead the process. In many instances the client is a corporation, government department or syndicate of joint ventures. In these circumstances it is usual to appoint a project manager; this can be accomplished in a number of ways (Barnett, 1988; Ireland (1987) for complete discussion of these organizational forms). The client or client representative often chooses to allow other team members to take much of the initiative, e.g. the architect or a construction management consultant. The client, however, must not relinquish ultimate control and responsibility. If the client suspects that other team members are pursuing their own objectives over the project objectives, then a stand must be made and authority exercised to ensure that project goals are pre-eminently pursued. In this way it can be seen that strength of conviction and adherence to project goals is a vital client characteristic.

2.5.2 Quality service and completion of construction projects

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)

In addition, 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 (Kiggundu, 2011)

Moreover, to ensure Quality Control/Quality Assurance, Contractor shall retain a qualified person or firm to be responsible for quality control and quality assurance of the completed Work (the "QA/QC Director"), subject to the approval of Owner, not to be unreasonably withheld. The QA/QC 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. The QA/QC Director shall report to PM/CM, Contractor and the Owner on a biweekly basis, or more frequently as needed. The role and specific responsibilities of QA/QC Director with respect to the Project shall be more particularly set forth in the agreement between Contractor and QA/QC Director (the "QA/QC Contract").

A number of governments have responded by adopting electronic procurement (henceforth: e-procurement) (World Bank 2007). E-procurement entails the use of electronic media, such as the internet, for some or all of the process of acquisition of goods or services. E-procurement is thought potentially to address three common concerns with manual procurement practices: lack of access to bid information, collusion among bidders, and corruption. E-procurement can increase the number of bidders by lowering the costs of obtaining information about a tender process, thus increasing the number of firms who can bid. Likewise, e-procurement can reduce collusion among bidders by providing information about tenders to firms outside a local cartel, allowing non-cartel firms to participate and breaking up local bidding cartels. E-procurement can

also potentially mitigate corruption by reducing the degree to which government officials

selectively withhold information or refuse to take bids from non-favored bidders. Moreover, by ensuring public access to all procurement data, e-procurement enhances transparency and the possibility of public oversight

2.6 Theoretical Framework

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 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 noteworthy that resistance is greater when goals are difficult.

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2.7 Conceptual Framework

The study was guided by the following conceptual Framework:

Independent Variables

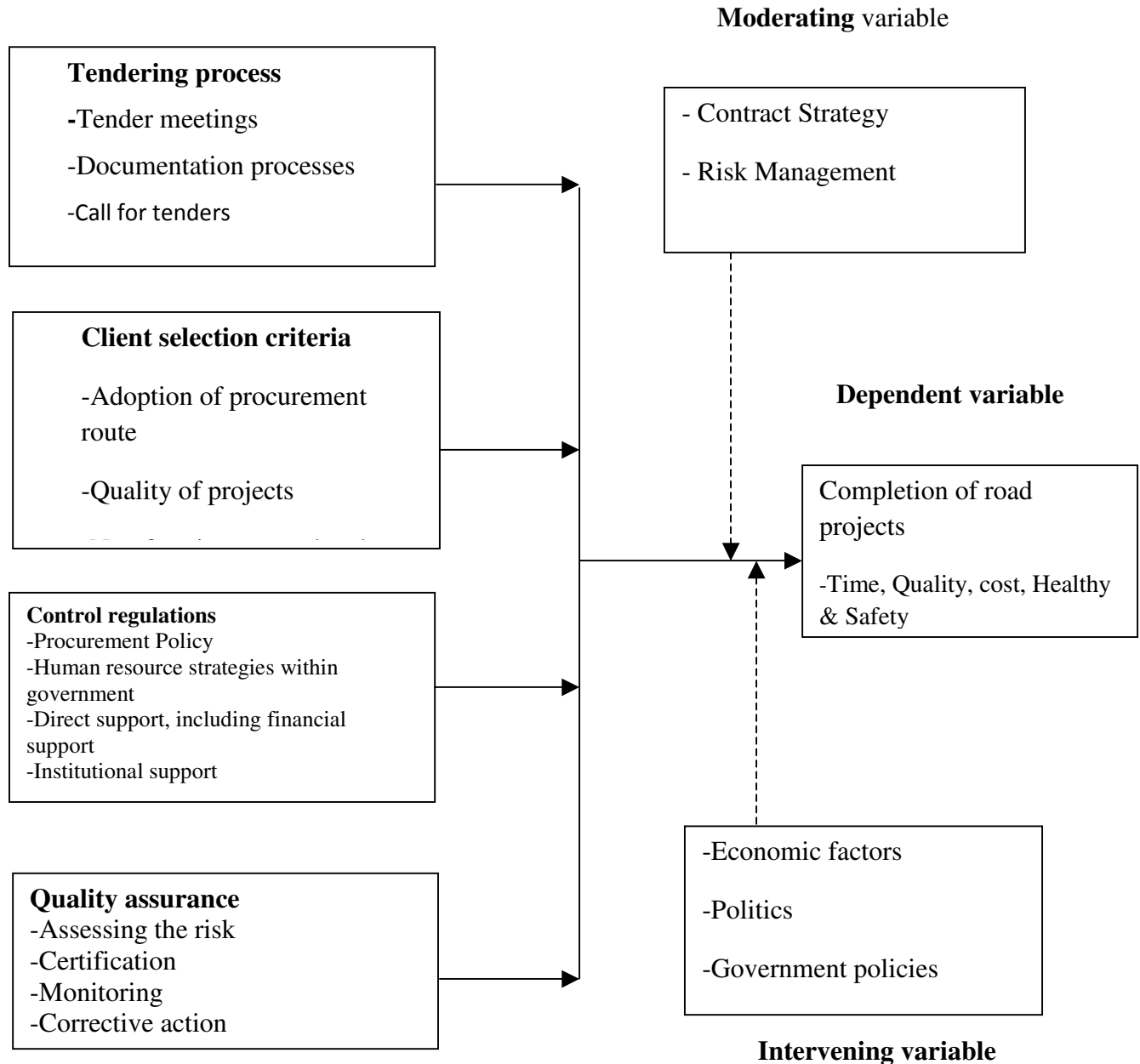


Figure 2.1: Conceptual framework

2.8 Knowledge gap

The study involved intensive review of literature related to influence of procurement process on successful completion of projects. From the literature reviewed a number of gaps emerged which further informed the direction the study took. One, procurement involves arranging and coordinating people to achieve prescribed goals or objectives. The Aqua Group (1999) described procurement as the process of obtaining or acquiring goods and services from another for some consideration. Project procurement is paramount as the organizational structure needed to design and build construction projects for a specific client. 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 term of their roles, duties, responsibilities and interrelationship between them.

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 inform 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 can 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.

In this study, the researcher used a descriptive survey design to establish the extent to which tendering processes affect successful completion of construction projects and the key respondents were the directors and employees of Mwasi Construction Company in Kanduyi sub-County. Questionnaire and interview schedule was used to collect data, both primary and secondary. Data was analyzed qualitatively and quantitatively.

In the study Effects of Procurement Related Factors on Construction Project Performance, Ogunsanmi (2013) identified six procurement selection criteria showed some effects on project performance :cost related factors ranked first ($MIS = 0.89$), time related factors ranked second ($MIS = 0.85$), quality related factors ranked third ($MIS = 0.77$) while project characteristics ranked sixth ($MIS= 0.71$). These results also reveal that cost related factors has the highest impact on project performance while time and quality related factors show some level of impacts on project performance. General needs, external environment and project characteristics do not show too serious impacts on project performance. Emphasis is still on cost, time and quality effects for selecting procurement method.

Results also showed that cost, time, quality project characteristics and external environment procurement selection factors have their calculated chi-square values ($\chi^2_{cal} = 31.83, 16.61, 20.45, 20.13, 9.39$) higher than the tabulated values ($\chi^2_{tab} = 9.34, 11.14$) hence the results are significant. This implies accepting the alternative hypothesis. This indicates that cost, time, quality, project characteristics and external environment have effects on project performance. Similarly, general needs has its calculated chi-square value ($\chi^2_{cal}=1.38$) lower than the tabulated value ($\chi^2_{tab} = 5.98$) hence the results is not significant. This also implies accepting the

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For this study, the researcher used descriptive survey design to establish the extent to which procurement selection criteria influence successful completion of construction projects and Questionnaire and interview schedule were used to collect data and was analyzed qualitatively and quantitatively.

In a study by Gnanih (2012) that sought to investigate the effect of the public procurement law on the Ghanaian educational sector, the objective of this study was to find out the effect of the current procurement law on the educational sector and to suggest ways by which the procurement law could be more useful to the sector. The literature review in the previous chapter represented studies that have been done by other people. Explanatory research was used for this study. Qualitative and quantitative analysis was used for this study. Both primary and secondary sources of data were obtained for the study. The target population for the study was made up of 20 procurement staff from the public procurement authority and the schools procurement unit, 10 head of schools, 10 bursars, and 50 teachers. The study's data was collected using two data collection instruments, namely, questionnaires and interviews.

The findings showed that The Procurement Act, 2003 has been put in place to bring about efficiency, effectiveness and accountability. The study 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 Procurement Act, has created order in the procurement process of schools, because they knew what to do and who it should go to, it has also brought about transparency in the use of state resources. However, the study also brought out challenges. The main challenges, that this study revealed, where, bureaucracy in the system preventing good management of the schools, unskilled professional procurement officers, and delay in funds. Thus, one can say that the procurement law is having both a good and a bad effect on the educational sector of Ghana. It has created order in the system but changes are still needed to make the system fully effective, efficient and transparent.

Lastly, Australian study (CIDA 1993) pre-construction activities involving the client accounted for 66% of perceived factors influencing construction performance. The client influence upon the choice of project delivery system can be crucial if it opens up greater possibilities for informed advice on the design to be adopted, construction methods to be proposed and organisational structures to be developed to manage the project. The rise of alternative modes of project delivery has highlighted short comings in the traditional approach and the client can, if aware of advantages and disadvantages. The study indicated that a client who is experienced and sophisticated (in terms of project management) may choose to take the initiative and lead the process. In many instances the client is a corporation, government department or syndicate of joint ventures. In these circumstances it is usual to appoint a project manager; this can be accomplished in a number of ways (Barnett, 1988; Ireland (1987) for complete discussion of these organisational forms). The client or client representative often chooses to allow other team members to take much of the initiative, e.g. the architect or a construction management consultant. The client, however, must not relinquish ultimate control and responsibility. If the client suspects that other team members are pursuing their own objectives over the project objectives, then a stand must be made and authority exercised to ensure that project goals are pre-eminently pursued. In this way it can be seen that strength of conviction and adherence to project goals is a vital client characteristic.

The researcher collected data using questionnaire and analyzed it qualitatively in the attempt to explore the influence of quality assurance on completion of construction projects.

CHAPTER THREE

RESEARCH DESIGN AND 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 enabled 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 Study Area.

The study was carried out in road construction Companies in Bungoma South Sub County, Western region in Kenya. Bungoma South District covers a total area 996 square kilometers and has a total population of 375,063 with 48% Male and Female 52% with a steady growth of 2.5%. (Source: Bungoma Districts statistics Office, according to the 2009 Statistics).The main staple food is maize, cultivation of crops like cassava, sweet potatoes, bananas, millet and beans. There is also a variety of domestic vegetables like kales, cabbages and cowpeas. Besides agriculture, almost 90% of the residents practice livestock and poultry farming either on large scale or small scale.

With the emergence of County Governments in Kenya following the promulgation of the new Constitution of Kenya 2010, Bungoma South Sub-county became the Headquarters of the

Bungoma County Government. The essence of devolution being to bring services closer to citizens, road construction of all feeder roads in the rural and urban was devolved.

Economically, Bungoma South Sub County generally enjoys production and consumer economy

3.4 Target population

The target population was construction companies, construction managers, construction workers, County assembly of Bungoma members of the procurement department and Ministry of works officers In Bungoma south sub county. There were 25 construction companies, 25 construction managers, 345 construction workers, 5 employees in procurement department and from county assembly of Bungoma and 5 officers from the ministry of works. Therefore the target population was 25 construction managers, 345 construction workers, 5 committee members for procurement and development from county assembly of Bungoma and 5 officers from the ministry of works making a total study population of 370

3.5 Sample size and Sample procedure

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

3.5.1 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 111 comprising of construction managers, construction workers, county assembly procurement committee and officers from the ministry of works in Bungoma south sub county

3.5.2 Sampling Procedure

The study employed both purposive and systematic random sampling to obtain respondents for the study. Purposive sampling ensured that all the construction managers, all the county assembly committee members and all Ministry of works officials provided information concerning the subject of study. Systematic random sampling was used to select 86 construction workers from the 25 construction companies whereby every 3rd worker was systematically selected from a list comprising all employees in all the companies.

3.6 Data Collection Instruments

The instrument of data collection was the questionnaire and interview schedule. The use of questionnaire was the most preferred since the target group was literate and the time of study was limited. The questionnaire included a set of structured and unstructured questions. Questionnaires was 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 interview is useful since they fetch variety of ideas needed for the study.

3.6.1 Validity of instrument

Validity is the degree which the results obtained from analysis of data present phenomena under study (Mugenda and Mugenda, 2003). It's a measure of how well a test measures what is supposed to measure (Kombo and Tromp, 2006; Best and Kahn, 2003). The researcher constructed a questionnaire; peer and research measurement experts from the department of Extra Mural Centre at university of Nairobi validated the instrument. Two peers were graduate students undertaking research in a related area to the study. They were asked to evaluate the instrument in terms of content and face validity. They ensured that the items in the questionnaire captured the intended information accurately according to the objectives of the study.

3.6.2 Reliability of instruments

Grinnel (1993) defines reliability as that which measures the degree of accuracy in the measurement that an instrument provides. The reliability of the instruments will be established using Cronbach's alpha. The researcher used the Cronbach Alpha coefficient in order to establish

reliability. calculated using the formula
$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum SD^2 i}{\sum SD^2 t} \right)$$
 (where: α = alpha coefficient, k= number of items, Σ = summation, $SD^2 i$ = squared standard deviation within each item and $SD^2 t$ = total standard deviation squared). If the result was found to be above 0.5, then the instrument was consistent and, therefore, reliable (Frankel & Wallen (2000) and Mugenda & Mugenda, 2003).

3.6.3 Piloting of Research Instruments

The structured questionnaire was pretested in Ken chuan construction Company in Trans Nzoia County which did not participate in this study to determine if the items in the research instruments yielded the required data for the final study.

3.7 Data collection procedure.

An introduction official letter 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 it 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 a face to face interview with the five directors.

3.8 Data analysis technique

After data had been collected, the response to the close-ended items in the data collection instrument was assigned codes and labels. Frequency counts of the responses was then obtained, to generate descriptive information about the respondents that participated in the study and to illustrate 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 was 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.

3.9 Operational Definition of Variables

Objectives	Variables	Indicators	Measurement Scale
To determine the extent to which tendering process affect completion of roads construction projects in Bungoma South Sub County.	Independent Tendering process Dependent Completion of road projects.	-Tender documentation -Call for tenders -Responding to invitations .Tender meetings -Amendments to tender due -Submission and closing of tenders	Ordinal Nominal
To establish how client selection criteria affects completion of roads construction projects in Bungoma South Sub County.	Independent client selection criteria Dependent Completion of road projects.	-Type of client selection criteria mostly used. -Quality of projects completed -No. of projects completed on time and within budget to the satisfaction of clients -Clients creativity.	Ordinal Nominal
To establish the extent to which control regulations affect completion of roads projects in Bungoma South Sub County.	Independent control regulations Dependent Completion of road projects.	-Type of control regulations used in procurement. -Quality of projects completed - Record keeping. -Legal framework.	Ordinal Nominal
To determine how quality assurance influence completion of roads projects in Bungoma South Sub County.	Independent Quality assurance. Dependent Completion of road projects.	-Assessing the risk -Certification. -Monitoring. -Internal audit. -corrective action.	Ordinal Nominal

Table 3. Operational definition of variables

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 Bungoma South Sub County.

4.2 Questionnaire return rate

The researcher gave out 111 questionnaires to respondents. The researcher collected 80 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 analysed. The areas analysed 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 road construction in Bungoma South sub-county.

Table 4.1: Gender characteristics of respondents

Gender	Frequency	Percentage (%)
Male	60	75.00
Female	20	25.00
Total	80	100.00

Source: Primary data

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 Bungoma South Sub 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 below;

Table 4.2: Distribution of Respondents by Age Groups

Age Group (Years)	Frequency	Percentage (%)
19 -25	03	03.75
26 -35	17	21.25
36-45	15	18.75
46-55	40	50.00
56 and above	05	06.25
Total	80	100.00

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. Majority of the respondents are of age and have experience therefore understand issues with procurement process in relation to road construction projects within Bungoma South Sub-county .

4.3.3 Working experience in current position in years

Respondents were also asked to give their working experience in current position in years. Their responses was tabulated below:

Table 4.3: Working experience in current position in years

Working experience		
In current position	Frequency	Percentage (%)
0-4	09	11.25
5-9	43	53.75
10-14	19	23.75
Above 15	09	11.25
Total	80	100.0

From the table, 4.3(53.75%) have worked between 5-9 years, 19(23.75%) have worked for 10-14 years and 9(11.25%) had worked for 0-4 and 9(11.25%) above 15 years. This indicates that majority of the respondents are experienced enough to handle procurement process 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	08	10.00
Diploma	40	50.00
First degree	28	35.00
Masters	04	05.00
Total	80	100.0

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 completion of road projects.

4.4. Influence of Tendering process on completion of road construction Projects

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

4.4.1 Selection process of tenders

The respondents were asked to indicate whether the selection process of tenders affected road construction projects.

Table 4.5: Selection process of tenders

Selection process of tenders	Frequency	Percentage (%)
Strongly agree	40	50.00
Agree	27	33.75
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	13	16.25
Total	80	100.00

From the table, 40 (50.00%) of the respondents strongly agreed that selection process of tenders affected completion of road construction projects, 27(33.75%) agreed, 13(16.25%) strongly disagreed.

4.4.2 Tender documentation

Respondents were also asked to indicate if tender documentation affected completion of road construction projects. The responses are shown in the table 4.6 below:

Table 4.6: Tender documentation

Tender documentation	Frequency	Percentage (%)
Strongly agree	27	33.75
Agree	40	50.00
Not sure	00	00.00
Disagree	13	16.25
Strongly disagree	00	00.00
Total	80	100.00

From the table, 40 (50.00%) of the respondents agreed that tender documentation affected road completion of construction projects, 27(33.75%) strongly agreed, 13(16.25%) disagreed. Tender documentation is important because it ensures accuracy because there are occasions when tenders received have been seriously flawed. It need 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) pre-qualification, (2) tender documentation and (3) bidding.

4.4.3 Call for Tenders

Respondents were also asked to indicate if call for tender affected completion of road construction projects. The responses were as shown in the table below:

Table 4.7: Call for Tenders

Call for Tenders	Frequency	Percentage (%)
Strongly agree	13	16.25
Agree	54	67.50
Not sure	13	16.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

From the table 4.7, 54 (67.50%) of the respondents agreed that call for tenders affected road construction projects, 13 (16.25%) strongly agreed and 13(16.25%) were not sure. It is the tender manager's initial function whether to call or not call for tenders .Calling for tender indicates that the manager is aware of the design, production, finance, legal, 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 agrees with Ramus (1981), Manthosi and Thawala (2012) and Ganderton (2012) who postulated 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 road construction projects. The responses are shown in the table 4.8 below:

Table 4.8 Responding to tenders

Responding to tenders	Frequency	Percentage (%)
Strongly agree	13	16.25
Agree	54	67.50
Not sure	00	00.00
Disagree	13	16.25
Strongly disagree	00	00.00
Total	80	100.00

It was shown that 54 (67.50%) of the respondents agreed that response to tenders affected completion of road construction projects. 13(16.25%) strongly agreed and 13(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 road construction projects. The results were put in the table below:

Table 4.9 Tender meetings

Tender meetings	Frequency	Percentage (%)
Strongly agree	09	11.25
Agree	59	73.75
Not sure	12	15.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

The study found out that 59 (73.75%) agreed that attending tender meetings influenced completion of road construction projects. 15% of the respondents were not sure and 11.25% strongly agreed. The pre tender meeting 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 road projects. The respondents had the following to say:

Table 4.10 Amendment to tender

Amendment to tender	Frequency	Percentage (%)
Strongly agree	10	12.50
Agree	23	28.75
Not sure	22	27.50
Disagree	24	30.00
Strongly disagree	01	01.25
Total	80	100.00

From the responses, 30.00% of the respondents disagreed that amendment to tender influenced completion of road 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 road construction projects.

4.4.7 Submission and closing

Further, the study was to establish the influence of submission and closing of tenders on completion of road projects. The responses were as follows:

Table 4.11 Submission and closing of tenders

Submission and closing		
of tenders	Frequency	Percentage (%)
Strongly agree	07	08.75
Agree	25	31.25
Not sure	19	23.75
Disagree	27	33.75
Strongly disagree	02	02.50
Total	80	100.00

33.75% of the respondents disagreed that submission and closing of tenders affected completion of road 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 road construction projects responded had the following to say:

Table 4.12 Tender selection and award.

Tender selection and award	Frequency	Percentage (%)
Strongly agree	43	53.75
Agree	35	43.75
Not sure	02	02.50
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

From the responses, 53.75% of the respondents strongly agreed that tender selection and award affected completion of road 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 road 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 completion of road construction Projects

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

4.5.1 Cost related factors

The respondents were asked to respond to some indicators.

First, they were asked to indicate if cost related factors influenced completion of road construction projects. The results were tabulated in the table below:

Table 4.13: Cost related factors

Cost related factors	Frequency	Percentage (%)
Strongly agree	37	46.25
Agree	43	53.75
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

The results showed that 43 (53.75%) respondents agreed that cost related factors influenced completion of road construction projects while 37(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 road construction projects. Their responses were given as below:

Table 4.14 Time related factors

Time related factors	Frequency	Percentage (%)
Strongly agree	16	20.00
Agree	54	67.50
Not sure	00	00.00
Disagree	10	12.50
Strongly disagree	00	00.00
Total	80	100.00

54(67.5%) respondents agreed that time related factors influenced completion of road construction projects. 16(20%) strongly agreed while 10(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.

4.4.3 Quality related factors

The study also sought to establish if quality related factors influenced completion of road construction projects. The respondents gave the following:

Table 4.15 Quality related factors

Quality related factors	Frequency	Percentage (%)
Strongly agree	26	32.50
Agree	41	51.25
Not sure	13	16.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

From the above table, 41(51.25%) agreed that quality related factors influenced completion of road construction projects. 26 (32.5%) strongly agreed while 13(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 road construction projects, respondents gave the following responses:

Table 4.16 Project characteristics and General needs

Project characteristics and General needs		
and General needs	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	45	56.25
Not sure	23	28.75
Disagree	12	15.00
Strongly disagree	00	00.00
Total	80	100.00

Results showed that 45(56.25%) respondents agreed with this notion, 23(28.75%) were not sure and 12(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

Lastly on this theme the study sought to establish if the external environment influenced completion of road construction projects. The respondents had the following responses:

Table 4.17 External environment

Tender selection and award	Frequency	Percentage (%)
Strongly agree	13	16.25
Agree	56	70.00
Not sure	11	13.75
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

Table 4.17 shows that 56(70.00%) respondents agreed that the external environment influenced completion of road construction projects.13 (16.25%) strongly agreed and 11(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 road construction Projects

The respondents were also asked to rate the following about the client selected and influence on completion of road 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 completion of road construction Projects

Rating of influence of client selection criteria on completion of road projects							Standard deviation
	1	2	3	4	5	Mean	
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	07	2.7	1.05
Percentage	00	58.75	21.25	11.25	08.75	100	
Mean of 4 on (1-5)						2.185	1.35

For item one in Table 4.18; the mean value was calculated using the formula $\Sigma fx / \Sigma f$ where Σfx 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 Σf 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 $\Sigma fx / \Sigma f = (13 \times 1 + 54 \times 2 + 13 \times 3 + 0 \times 4 + 0 \times 5) / 80 = 160 / 80 = 2.00$. 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 = $(\Sigma f(x-3)^2 / \Sigma f)$ where 3 was used as the assumed mean. For item one in Table 4.18; the standard deviation value was calculated as $\Sigma f(x-3)^2 / \Sigma f = (13 \times 4 + 15 \times 1 + 13 \times 0 + 0 \times 1 + 0 \times 4) / 80 = 67 / 80 = 0.84$. 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 road construction Projects in Bungoma South sub- 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 completion of road construction projects

The study sought to establish the influence Control regulations in procurement on completion of road 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 successful 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 opening. 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 expertize 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 completion of road 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 roads 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 the table below:

Table 4.19 Non completion of the roads project and effect on its viability

Non completion of the roads project And effect on its viability		
	Frequency	Percentage (%)
Strongly agree	02	02.50
Agree	69	86.25
Not sure	09	11.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

From table 4.19,69 (86.25%) agreed that non completion of 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 roads 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 project budget

The roads project budget will		
Be exceeded	Frequency	Percentage (%)
Strongly agree	12	15.00
Agree	28	35.00
Not sure	27	33.75
Disagree	13	16.25
Strongly disagree	00	00.00
Total	80	100.00

The study also found out that 28 (35%) respondents agreed that the budget will be exceeded.27 (33.75%) were not sure of this while 12(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 roads projects to the environment and / or heritage issues and/ or environmental conditions and approval

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 roads projects to the environment and / or heritage issues and/ or environmental conditions and approval.

Sensitivity of roads projects to the environment and/or heritage issues and or environmental conditions		
	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	54	67.50
Not sure	18	22.50
Disagree	08	10.00
Strongly disagree	00	00.00
Total	80	100.00

54(67.50%) 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. 18(22.50 %) were not sure and 8(10%) 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 roads 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 roads projects to the application of new technologies.

Sensitivity of roads project to The application of new Technologies.		
	Frequency	Percentage (%)
Strongly agree	15	18.75
Agree	40	50.00
Not sure	25	31.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

From the study, 40(50%) agreed that the project will be sensitive to the application of new technologies. 25(31.25%) were not sure about this while 15(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 road projects to operate within the design specifications

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

Table 4.23 Failure of road projects to operate within the design specifications.

Failure of road projects to operate within the design specifications		
specifications	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	13	16.25
Not sure	00	00.00
Disagree	67	83.75
Strongly disagree	00	00.00
Total	80	100.00

From the table, 67(83.75%) disagreed that facility was not operating within the design specifications.13 (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	00	00.00
Agree	80	100.00
Not sure	00	00.00
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

All (100%) 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 road 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 road design teams.

Clients innovative and effective road design teams		
design teams	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	69	86.25
Not sure	11	13.75
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

The results indicated that 69(86.25%) respondents agreed that clients build a strong, imaginative and effective design team which seeks and positively responds to build ability advice.11 (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 road 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 below

Table 4.26 Appropriate distribution of risk in road projects.

Appropriate distribution		
of risk in road projects	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	40	50.00
Not sure	23	28.75
Disagree	17	21.25
Strongly disagree	00	00.00
Total	80	100.00

The study showed that 40(50%) respondents agreed that clients ensured that risk is appropriately distributed to those who can best control that risk. 23(28.75%) were not sure while 17(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

To find out if clients took responsibility, when required, for providing timely, clear and responsible decisions, the following information in table 4.26 was established:

Table 4.27: Clients taking responsibility when required

Clients take responsibility, When required, for Providing timely, clear And responsible decisions		
	Frequency	Percentage (%)
Strongly agree	00	00.00
Agree	54	67.50
Not sure	16	20.00
Disagree	10	12.50
Strongly disagree	00	00.00
Total	80	100.00

54 (67.50%) respondents agreed that clients took responsibility, when required, for providing timely, clear and responsible decisions. 16(20%) respondents were not sure and 10(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 4.27 summarizes the responses.

Table 4. 27: 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	55	68.75
Not sure	25	31.25
Disagree	00	00.00
Strongly disagree	00	00.00
Total	80	100.00

Table 4.27 shows that 55(68.75%) respondents agreed clients engendered an atmosphere where cooperative problem solving within the team could be achieved and 25(31.25%) were not sure .It need 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 the 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 4.28 summarizes these.

Table 4.28: Clients ensuring proper accountability of team members

Proper accountability of Team members is		
	Frequency	Percentage (%)
Strongly agree	28	35.00
Agree	28	35.00
Not sure	00	00.00
Disagree	24	30.00
Strongly disagree	00	00.00
Total	80	100.00

The table showed that a sum of 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. 30% 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 Bungoma County assembly, Directors of the road 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 were 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, CONCLUSIONS, DISCUSSIONS AND RECOMMENDATIONS

5.1 Introduction

The major purpose of the study was to investigate the influence of procurement processes on completion of road construction projects in Bungoma South sub-county. The chapter focuses on the summary of the findings, related discussions and recommendations.

5.2 Summary of Findings

The research study sought to assess the influence of procurement process on completion of road construction projects in Bungoma South sub-county, Bungoma County in Kenya. This entailed an analysis of operations in order to determine efficiency and effectiveness in the procurement process in the sub-county.

5.2.1 Background information

The researcher gave out 111 questionnaires to respondents. The researcher collected 80 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, 43(53.75%) have worked between 5-9 years, 19(23.75%) have worked for 10-14 years and 9(11.25%) had worked for 0-4 and 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.

5. 2.2 Influence of Tendering process on completion of road construction Projects

From the table, 40 (50.00%) of the respondents strongly agreed that selection process of tenders affected completion of road construction projects, 27(33.75%) agreed, 13(16.25%) strongly disagreed. 40 (50.00%) of the respondents agreed that tender documentation affected road completion of construction projects, 54 (67.50%) of the respondents agreed that call for tenders

affected road construction projects. It was also shown that 54 (67.50%) of the respondents agreed that response to tenders affected completion road construction projects. The study also found out that 59 (73.75%) agreed that attending tender meetings influenced completion of road construction projects. From the responses, 30.00% of the respondents disagreed that amendment to tender influenced completion of road 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 road projects. However, 53.75% of the respondents strongly agreed that tender selection and award affected completion of road construction projects and 43.75% agreed to that.

5.2.3 Influence of client selection criteria on completion of road construction Projects

The study sought to establish the influence of client selection criteria on completion of road construction projects. The respondents were asked to respond to some indicators. The results showed that 43 (53.75%) respondents agreed that cost related factors influenced completion of road construction projects while 37(46.25%) strongly agreed. 54(67.5%) respondents agreed that time related factors influenced completion of road construction projects. 41(51.25%) agreed and 26 (32.5%) strongly agreed that quality related factors influenced completion of road construction projects. Results showed that 45(56.25%) respondents agreed with the notion that Project characteristics and General needs influenced completion of road construction projects. Lastly, 56(70.00%) respondents agreed that the external environment influenced completion of road construction projects and 13 (16.25%) strongly agreed.

Rating of influence of client selection criteria on completion of road 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 road construction Projects in Bungoma South sub- 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.

5.2.4 Control regulations in procurement and completion of road construction projects

The study sought to establish the influence Control regulations in procurement on completion of road 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, names of successful 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 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.

5.2.5 Quality assurance on completion of road construction projects

The study sought to assess the risk associated with completion of road construction projects and the researcher rated the respondents. 69 (86.25%) agreed that the project non completion of projects affected the viability of the project and 28 (35%) respondents agreed that the budget will thus be exceeded, 54(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, 40(50%) agreed that the project will be sensitive to the application of new technologies, though 67(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, 69(86.25%) agreed that clients build a strong, imaginative and effective design team which seeks and positively responds to build ability advice, 40(50%) respondents

agreed that clients ensured that risk is appropriately distributed to those who can best control that risk, 54 (67.50%) respondents agreed that clients took responsibility, when required, for providing timely, clear and responsible decisions. 55(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 69 (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.

5.2.6 Analysis from the interview

The researcher interviewed procurement department staff of Bungoma County assembly, Directors of the road 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

From the study arrived at the following conclusions:

Tendering process influence completion of road 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 road 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 road project Control regulations in procurement influence completion of road 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 road 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 study was conducted in Bungoma South sub-county, Bungoma County, Kenya. The following observations were noted for further research; Influence of amendment to tender on completion of road projects and Influence of submission and closing of tenders on completion of road projects. It is also suggested that a similar study be done in other sub-counties and other counties in the country.

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Appendix 1: Letter of transmittal of data collection instruments

Date

To the Director,

.....Construction Company

P.O Box

Bungoma.

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 successful completion of construction projects in Bungoma south sub-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

Nekesa Rael Khisa

University of Nairobi

Appendix 2: Questionnaire for employees of the road construction Companies

Dear respondent,

The researcher is Master of Art (Project planning and Management) student in University of Nairobi carrying out a study on the influence of procurement process on completion of road construction projects in Bungoma south Sub-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

Part 1: Influence of Tendering process on completion of road construction 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 completion of road construction Projects

In each case, Give if you Strongly agree ,Agree, Not sure ,Disagree or Strongly disagree that the following client Selection Criteria influence affect completion of road construction Projects

Client Procurement Selection Criteria	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Cost related factors					
Time related factors					
Quality related factors					
Project characteristics General needs					
External environment					

Rate the following about the client selected:

Client Procurement Selection Criteria	Very High	High	Moderate	Low	Very Low
-Adoption of procurement route					
Quality of projects					
-Clients creativity					
-No of projects completed					

Part 3: Control regulations in procurement on completion of road construction projects

1. Do you understand the public procurement law? ☐ Yes ☐ No

2. Is the procurement law useful to your Company? ☐ Yes ☐ No

3. How useful is it to you?

4. Are summaries of information about public procurement available to you? (e.g. number of bids received, number of contracts awarded, 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: Quality assurance on completion of road construction projects

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 company? [] 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 industry?

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

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

Appendix 3

Interview schedule for procurement and development committee for Bungoma county assembly, Directors of the road construction Companies and Ministry of Works officers.

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.